QUARK SC

PRO DJ MIDI CONTROLLER

User Manual

AKIYAMA™

GO LIFE

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Intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the use to the presence of un-insulated “dangerous voltage” within the unit.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE ANY COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD. DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PRESENT BLADE TO PREVENT FIRE OR SHOCK HAZARD. DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. TO PRVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT FULLY INSERT.

SAFETY INSTRUCTIONS AND GUARRANTY INFORMATION

1. Read Instructions. All the safety and operating instructions should be read before this product is operated.

2. Retain Instructions. The safety and operating instructions should be retained for future reference.

3. Heed Warnings. All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions. All operating and use instructions should be followed; failure to do so can void this guarantee.

5. Water and Moisture. The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

6. Carts and Stands. The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn. Wall or Ceiling Mounting. The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

7. Heat. The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

8. Object and Liquid Entry. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

9. Damage Requiring Service. The appliance should be serviced by qualified service personnel when:

A: The power-supply cord or the plug has been damaged; or
B: Objects have fallen, or liquid has been spilled into the appliance; or
C: The appliance has been exposed to rain; or
D: The appliance does not appear to operate normally or exhibits a marked change in performance; or
E: The appliance has been dropped, or the enclosure damaged.

10. Servicing. In accordance with E.U. directives the user shall not attempt any service to the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel. Failure to follow this instruction can void this guarantee.

11. Ventilation Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is the manufacturer's instructions have been adhered to.

12. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer. The manufacturer will NOT take responsibility for non-recommended accessories.

13. Accessories. Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product.

14. Lightning. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

15. Replacement Parts: When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

16. Use only cables in accordance with present standards, ask your dealer.

17. Do not use right away the equipment in case has been transported from a cold environment to a hot one. Moisture will appear, let it off for a while.

18. Cleaning. Do not use cleaning sprays where the controls are. The appliance should be cleaned only as recommended by the manufacturer. Clean by wiping with a cloth slightly damp with water. Avoid getting water inside the appliance.

19. Audio ON: When installation is complete and you are about to start using the unit. Before switching ON the unit DO lower the Mains and Headphones volume controls. Failure to do so can result in hearing injuries or amplification stage damage.

20. Safety Check Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

21. For AC line powered units - Before returning repaired unit to user, use an ohm-meter to measure from both AC plug blades to all exposed metallic parts. The resistance should be more than 100,000 ohms.

22. To prevent fire or shock hazard. Do not use this plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to present blade, match wide blade plug to wide slot fully insert.

TERMS OF USE

Your unit comes with a serial number sticked on it. Do not tear the serial number; this can result in void guaranty.

SAFE AND EFICIENT USE

Select carefully the emplacement of the unit. Avoid placing it under direct sun exposure. Avoid humid and damp places or rough environments with excessive dust and vibrations and excessive heat or cold. Also keep it away from humming sources like the motors of whirl washers or transformers or similar appliances.
No liquids must be close to the unit so that they can be spilled on it. To completely disconnect the unit from you mains supply unplug the plug of the adapter from the wall electric outlet.
The switch that controls the supply of electrical power to the unit must be at easy reach in case is necessary a fast switch off.
WARNING: do not place the unit in a closed environment where is difficult to access the wall outlet.
Do not open the unit; it can cause personal injuries or the damage of the equipment.
When unplugging the power supply cable of the adaptor from the wall outlet, does not pull the cable. Take the plastic body of the plug and unplug it.
Do not handle roughly the controls of the unit you can shorten their lifespan.
Before moving the equipment, remember to unplug all cables.
Do not use chemical solvent to clean the unit. A dry and clean cloth will do fine.
Safe this manual at reach so you can go back to the basic in case you need it.

PRELIMINARY

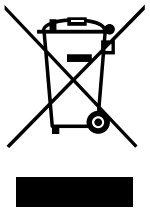
Check the contents of the QUARK SC box and find the following items:

1- Controller
1- Installation and instructions CD
1- Traktor Overlay
1- USB Cable (PC/MIDI)
1- Transfomer AC/DC

FIRST STEPS

Equipment installation

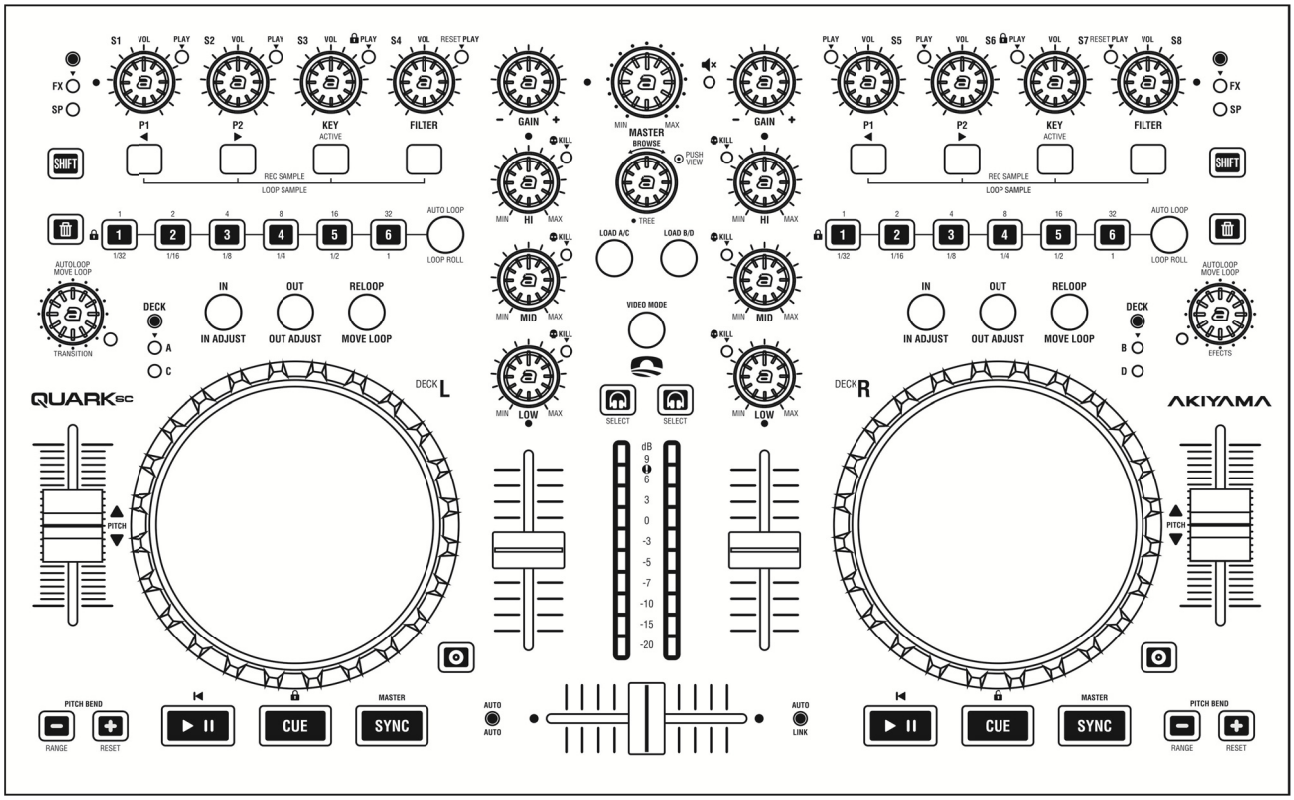
Install the equipment on a stable and horizontal surface.
Avoid placing it under direct sun exposure humid and damp places or rough environments.
Place the equipment as far away as possible of other audio equipment as radios TVs etc.



This product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.
The recycling of materials will help to conserve natural resources.
For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

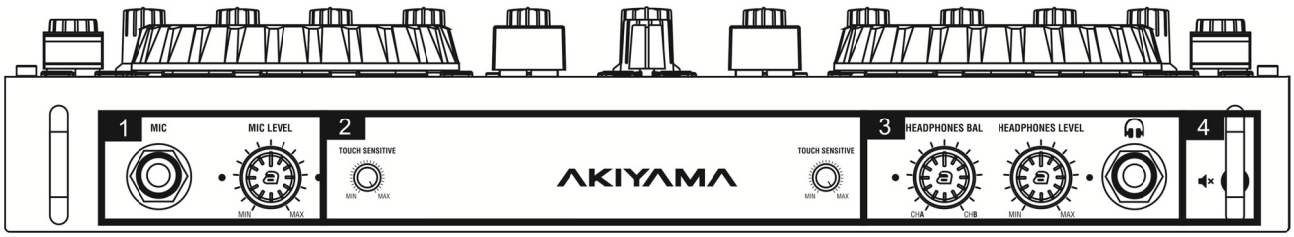
1. CONTROLS AND CONNECTIONS

1.1. Top panel



1. Controls Distribution for an optimal use of Virtual DJ and Traktor.
2. Touch sensible wheel with sensibility adjustment.
3. CUE, PLAY and SYNC buttons are rubber for longer lifespan.
4. Control of up to 4 Decks. MIDI notes are sent through different MIDI channels upon selection; DECK A/B or C/D. LEDs status are refreshed by firmware.
5. 8 potentiometers/buttons independent of deck status to control effects and/or samples. All can control two functions. MIDI notes are sent through different MIDI channels upon selection; FX or SP. LEDs status are refreshed by firmware.
6. Multimode knobs and encoder with 3 modes for each deck. Each control will be able to send 3 different MIDI notes upon mode selection. Each mode has a button colour associated.
7. Central mixer with 3 band equalizer with kill. On this section also are controllable the functions; gain for each channel, fader volume, crossfader and mains output level.

1.2. Front panel



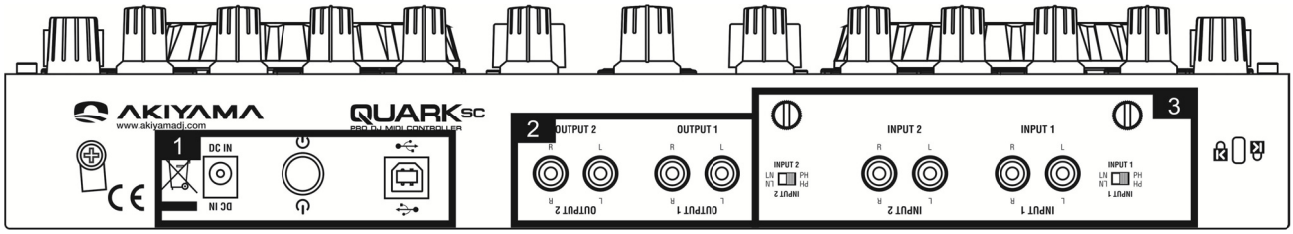
1. Microphone
Here connect a microphone using a X inch plug. Mic signal is sent to software. When a jack is plugged into the connector, INPUT 2 is disabled and replaced by mic signal. MIC LEVEL sets the microphone output level.

2. Touch Wheel sensibility
Turn ON the unit while button LOAD B/D is pressed; it enter to sensibility adjustment mode. Following turn the control labelled "TOUCH SENSITIVE" and set desired sensibility rate. Press LOAD A/C to exit sensibility adjustment mode.

3. Headphones
Here connect a headphone using a X inch plug. Headphones output signal is a blend of analog outputs OUT1 and OUT2.
Set level/proportion of OUT1/OUT2 turning control labelled HEADPHONES BAL. If control is set totally to the left we have only (CHA) OUT1 signal. If control is set totally to the right we have only (CHB) OUT2 signal. Control HEADPHONES LEVEL sets overall level for headphones.

4. MUTE
This is called the "panic button". If the software goes crazy – and it can happen – press MUTE to deactivate all audio outputs of the unit.

1.3. Rear panel

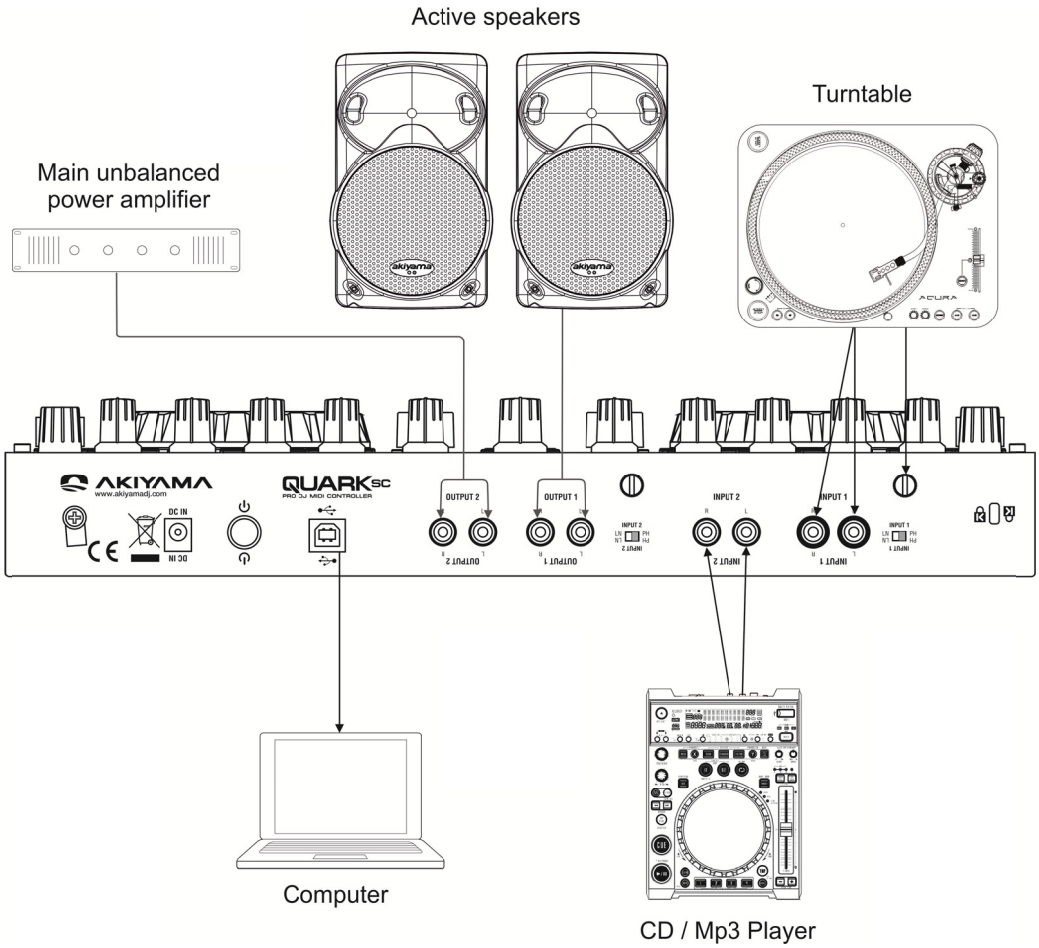


1. Power supply
Connect the unit to your computer through the USB connector. Connect the power supply unit to Quark SC connector DC IN. Quark SC can work only with the computer power through USB. The external power supply unit will only be necessary when Quark SC is connected to a hub (w/out external supply) or any other device unable to supply Quark SC with enough power (current/voltage).
Press POWER to turn ON/OFF the unit.

2. Outputs
Quark SC has two non-balanced stereo outputs. Connect any compatible amplifying unit or a mixer.

3. Inputs
Quark SC has two non-balanced stereo inputs. Connect any playback device to the input RCA connectors.
Use LN/PH selector to set the voltage level to LINE or PHONO respectively. Turntables will require PHONO setting and any line level playback device will require LINE setting.
If you use a turntable do connect ground line to Quark SC ground terminals.

1.4. Connections



ATENTION. Always unplug the unit before connecting the signal cables, otherwise can result in equipment damage.
1. If you need to change the signal connector first unplug the unit from the power supply; Either the USB or the external adapter.
2. We strongly recommend the use of quality cables, the sound quality can suffer from cheap cables.
3. Do not use excessive long cables. Check for a firm fixing of the connectors. Poor connection can cause noise like the typical “hum” or sound interruptions. Both scenarios can result in loudspeaker damage.
NOTE: Use only the supplied cables for power supply through external adapter or USB to computer. Manufacturer cannot take responsibility for any damage caused by use of non-homologated cables.

2. SOFTWARE INSTALATION AND SETUP

Before you can start using Akiyama Quark SC, it is necessary to install Akiyama ASIO drivers to optimize the performance of the sound card of Quark SC.
Also you will need a DJ Software. We will explain how to install Virtual DJ LE and how to configure Virtual DJ LE, Virtual DJ PRO and Traktor PRO 2.

2.1. Akiyama ASIO Drivers

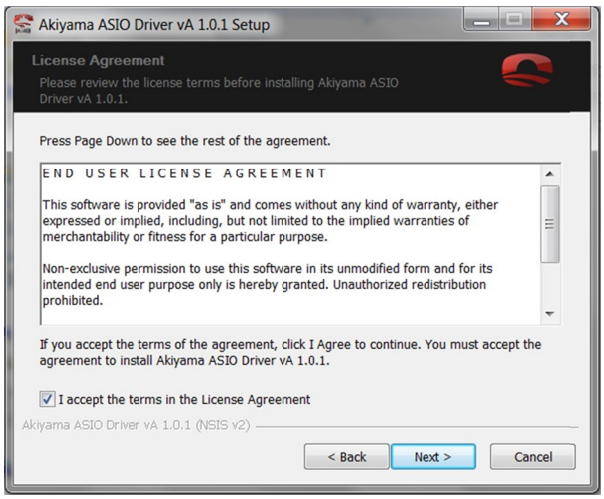
After connecting Quark SC to your computer USB port the hardware will be recognised as an audio device. Now you can start using Quark SC, however we strongly recommend the installation of the purpose designed Akiyama ASIO drivers.

2.1.1. Akiyama ASIO drivers installation

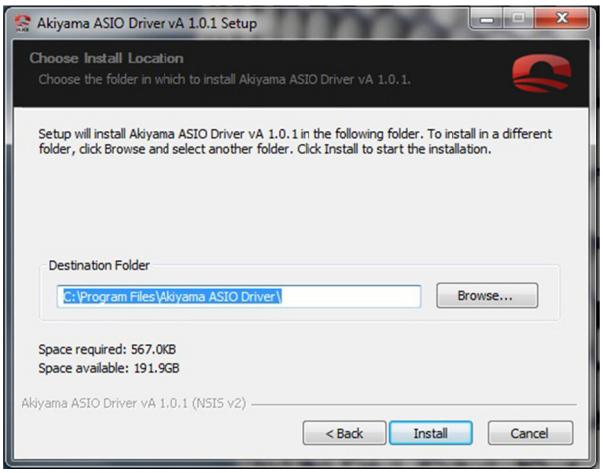
Double click the icon of the file:
Akiyama_ASIO_Driver_Setup.exe. Installation will start at once. Firstly, it will appear the welcome window as seen below.

Akiyama ASIO Driver vA 1.0.1 Setup
Welcome to the Akiyama ASIO Driver vA 1.0.1 Setup Wizard
This wizard will guide you through the installation of Akiyama ASIO Driver vA 1.0.1.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

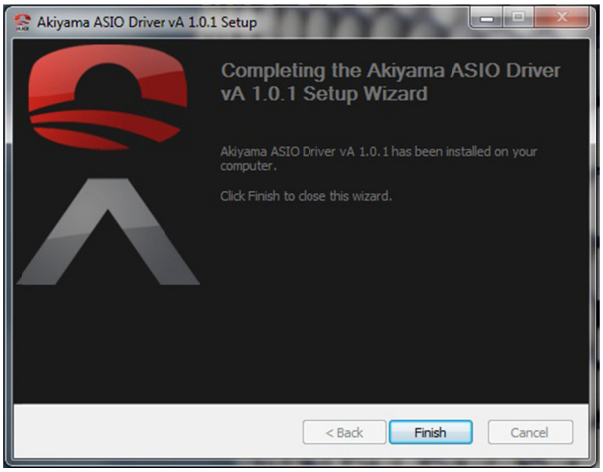
Before click “Next” read the information at welcome window. While installing the drivers we recommend you close all other applications running in your computer. This will enable important file upgrades without the need to reboot the computer. Select “Next” to start the installation. Following license agreement window will appear.


Akiyama ASIO Driver vA 1.0.1 Setup
License Agreement
Please review the license terms before installing Akiyama ASIO Driver vA 1.0.1.
Press Page Down to see the rest of the agreement.
END USER LICENSE AGREEMENT
This software is provided "as is" and comes without any kind of warranty, either expressed or implied, including, but not limited to the implied warranties of merchantability or fitness for a particular purpose.
Non-exclusive permission to use this software in its unmodified form and for its intended end user purpose only is hereby granted. Unauthorized redistribution prohibited.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Akiyama ASIO Driver vA 1.0.1.
I accept the terms in the License Agreement
Akiyama ASIO Driver vA 1.0.1 (NSIS v2)
< Back
Next >
Cancel

Select the accept box and press “Next”.


Akiyama ASIO Driver vA 1.0.1 Setup
Choose Install Location
Choose the folder in which to install Akiyama ASIO Driver vA 1.0.1.
Setup will install Akiyama ASIO Driver vA 1.0.1 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\Akiyama ASIO Driver\
Browse...
Space required: 567.0KB
Space available: 191.9GB
Akiyama ASIO Driver vA 1.0.1 (NSIS v2)
< Back
Install
Cancel

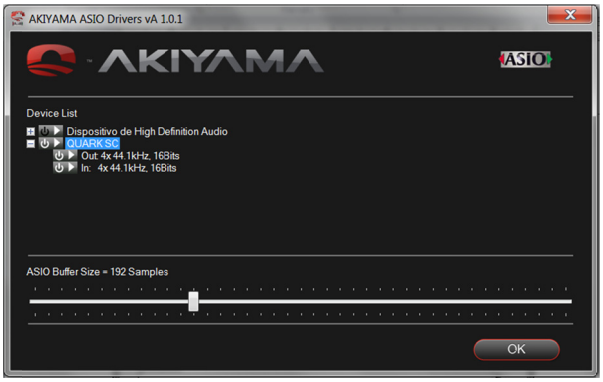
Select the folder where the driver will reside, by defect it will be C:\Program Files\Akiyama ASIO Driver\
To select another folder click “Browse…” and search for the desired folder. Following select “Install”.


Akiyama ASIO Driver vA 1.0.1 Setup
Completing the Akiyama ASIO Driver vA 1.0.1 Setup Wizard
Akiyama ASIO Driver vA 1.0.1 has been installed on your computer.
Click Finish to close this wizard.
< Back
Finish
Cancel

Finally press “Finish” to exit install wizard.

2.1.2. Akiyama ASIO drivers Configuration

At the DJ Software select drivers configuration and the following window will appear.



We recommend you only select Quark SC sound card. For the use of multiple sound cards read the manual you will find at the folder drivers installation. Select Quark SC (QUARK SC is highlighted on a blue rectangle.

Set “ASIO Buffer Size”. There is not an optimal buffer size since this parameter will depend upon many factors. As a rule of thumb lower the “ASIO Buffer Size” until you can hear noises and distortion when playing audio. When this happens, raise a little the “ASIO Buffer Size” until no unwanted sound appears at the audio. To exit press “OK”.
Next you have to configure the DJ Software inputs and outputs as explained in the chapter related to sound card configuration in this manual.

2.2. Virtual DJ

There is a purpose built Virtual DJ LE for Quark SC. In case you have a license for Virtual DJ PRO the software will automatically identify Quark SC. We will go through the different steps to install and configure Virtual DJ LE and PRO to be controlled by Quark SC.

2.2.1. Virtual DJ LE installation

Note: You must uninstall any Virtual DJ LE you had installed in your PC before you install the Virtual DJ LE (Quark) version. There can be only one Virtual DJ LE installed in each PC.

Windows Installation

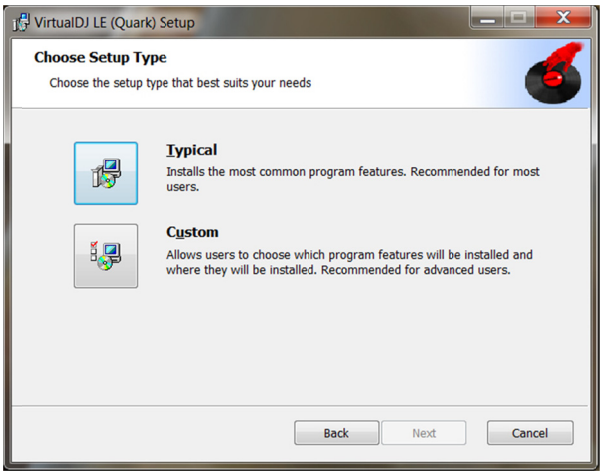
Execute the Virtual DJ LE file clicking the icon install_virtualdj_le_vx.y.z.msi where x.y.z is the software version. Installation will start with welcome window as seen below.

VirtualDJ LE (Quark) Setup
VIRTUAL DJ
Welcome to the VirtualDJ LE (Quark) Setup Wizard
The Setup Wizard will install VirtualDJ LE (Quark) on your computer. Click Next to continue or Cancel to exit the Setup Wizard.
Back
Next
Cancel

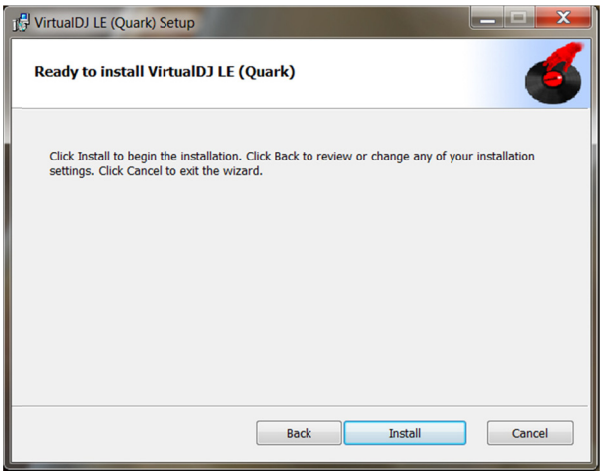
Select “Next” to start installation. Following the license agreement will show up.

VirtualDJ LE (Quark) Setup
End-User License Agreement
Please read the following license agreement carefully
EULA SUMMARY:
- This license gives you the right to install and use the software on a maximum of two computers, by one person.
- It does not give you the right to rent or sell computer systems on which the software is installed, or to rent or sell the software or part of it.
- The software is distributed "as-is" and no warranty of any kind is expressed.
- Atomix Productions and its suppliers retain all intellectual property rights in the software.
- Once activated, the software cannot be refunded, unless found to be defective by Atomix Technical Support.
I accept the terms in the License Agreement
Print
Back
Next
Cancel

Select the accept box and press “Next”.

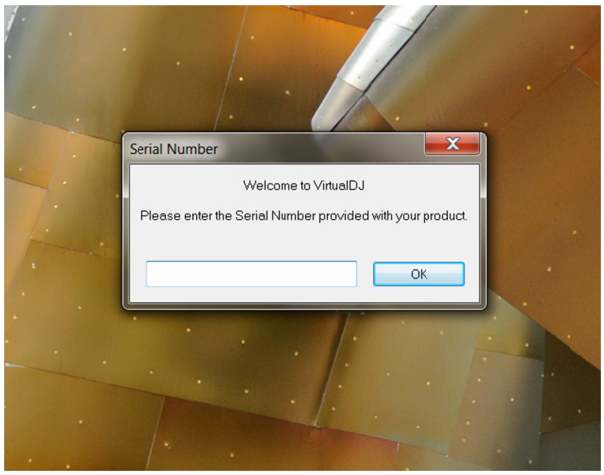

VirtualDJ LE (Quark) Setup
Choose Setup Type
Choose the setup type that best suits your needs
Typical
Installs the most common program features. Recommended for most users.
Custom
Allows users to choose which program features will be installed and where they will be installed. Recommended for advanced users.
Back
Next
Cancel

Type of installation is selectable; we recommend you start with “Typical”. If in later installation you need to select concrete units to install you shall use “Custom” option.


VirtualDJ LE (Quark) Setup
Ready to install VirtualDJ LE (Quark)
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.
Back
Install
Cancel

Press “Install”, installation will start.

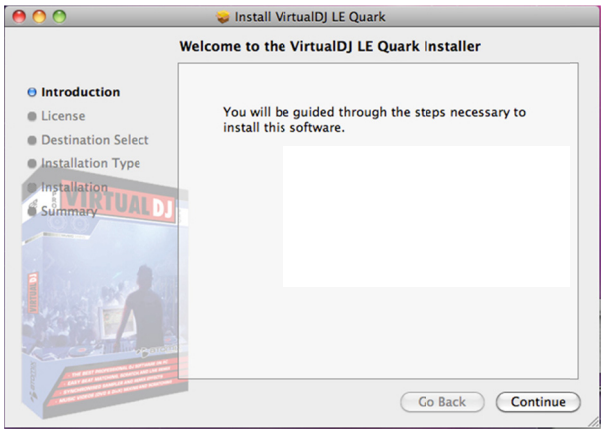
Once program is installed you can choose to launch it or exit. Select “Lauch VirtualDJ” to start it.



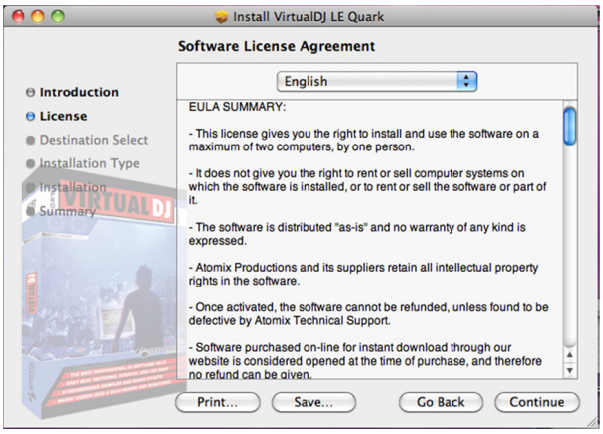
The first time you run the program a window will require you to fill up the serial number that is supplied with your Quark SC (find it at the label of the supplied CD). Fill it and press OK. Virtual DJ LE for Quark SC will open:

MAC Installation

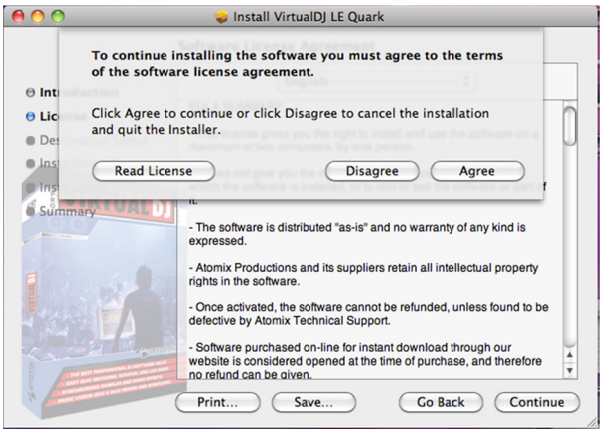
Execute the Virtual DJ LE file clicking the icon install_virtualdj_le_vx.y.z.pkg where x.y.z is the software version. Installation will start with welcome window as seen below.



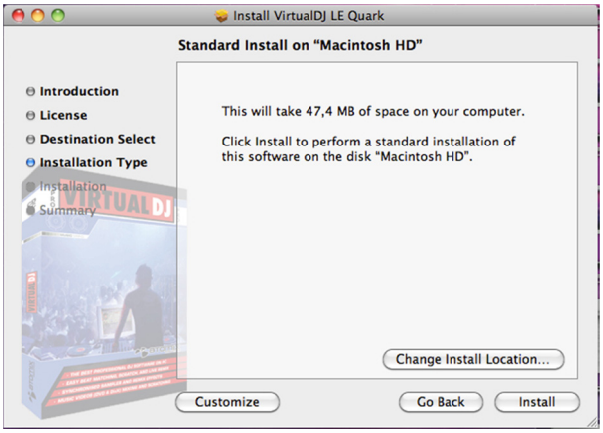
Select “Continue” to start installation. Following license agreement window will pop up.


Install VirtualDJ LE Quark
Software License Agreement
English
Introduction
License
Destination Select
Installation Type
Installation
Summary
EULA SUMMARY:
- This license gives you the right to install and use the software on a maximum of two computers, by one person.
- It does not give you the right to rent or sell computer systems on which the software is installed, or to rent or sell the software or part of it.
- The software is distributed "as-is" and no warranty of any kind is expressed.
- Atomix Productions and its suppliers retain all intellectual property rights in the software.
- Once activated, the software cannot be refunded, unless found to be defective by Atomix Technical Support.
- Software purchased on-line for instant download through our website is considered opened at the time of purchase, and therefore no refund can be given.
Print...
Save...
Go Back
Continue

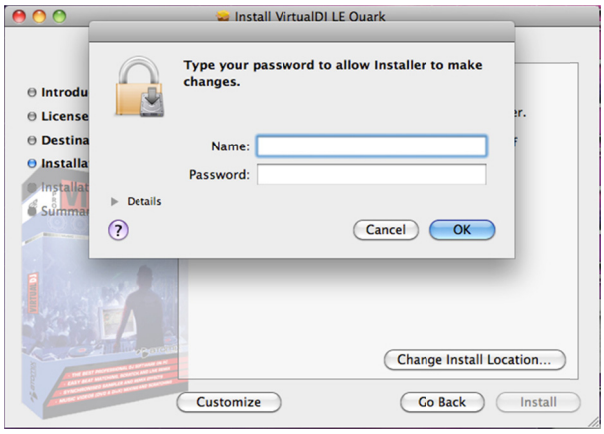
Select “Agree” and continue with installation wizard.


Install VirtualDJ LE Quark
To continue installing the software you must agree to the terms of the software license agreement.
Click Agree to continue or click Disagree to cancel the installation and quit the Installer.
Read License
Disagree
Agree
- The software is distributed "as-is" and no warranty of any kind is expressed.
- Atomix Productions and its suppliers retain all intellectual property rights in the software.
- Once activated, the software cannot be refunded, unless found to be defective by Atomix Technical Support.
- Software purchased on-line for instant download through our website is considered opened at the time of purchase, and therefore no refund can be given.
Print...
Save...
Go Back
Continue

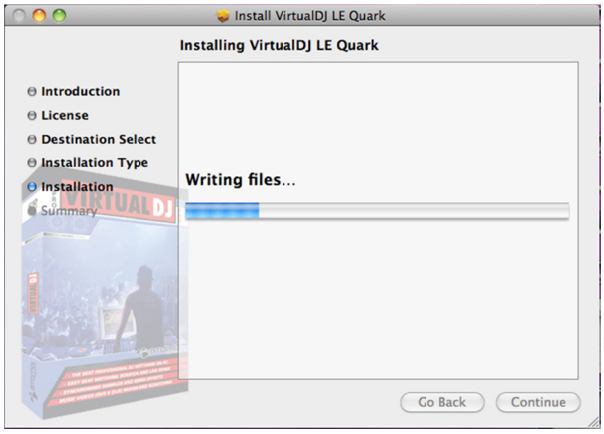
Following will appear a window showing the type of installation to choose. You can change/select the folder where it will reside the software, or press “Install” to commence at once.



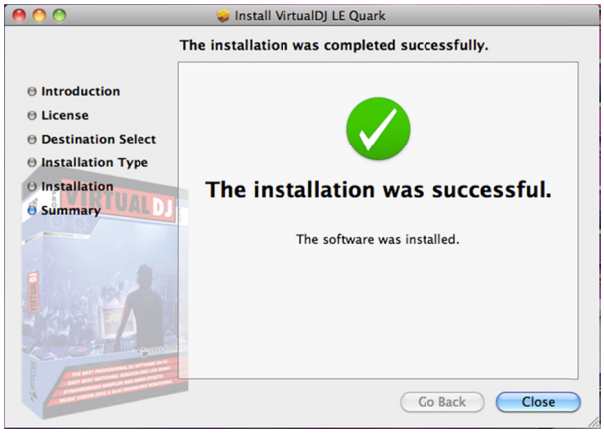
For introducing changes at the installation wizard you shall fill your name and password.



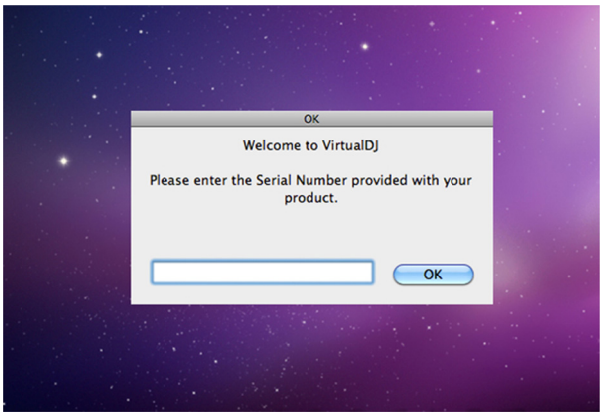
Meanwhile Virtual DJ LE is in process of install you will see the following window.



When install is complete and successful you will see a message as seen below.



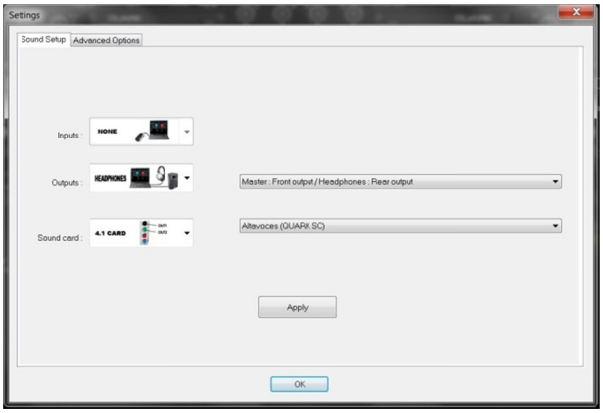
Fist time you run the software a window as seen below will pop up. Fill up serial number provided with your Quark SC (find it at the label of the supplied CD) and then click OK.



Following Virtual DJ LE for Quark SC will open:

2.2.2. Virtual DJ Configuration

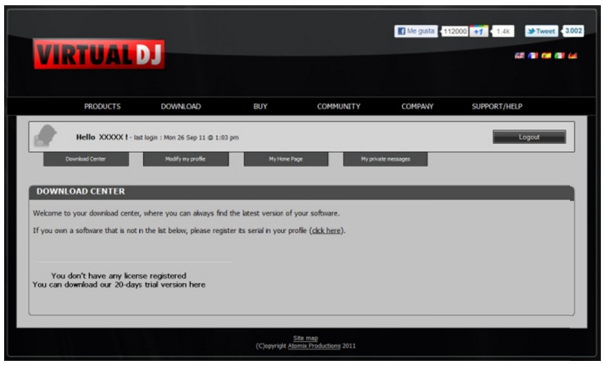
Once Virtual DJ is launched select CONFIG to access the window below.



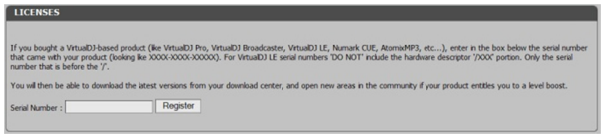
Select 4.1 CARD QUARK SC at “Sound card” and QUARK SC on the right.
With this configuration we have:
-Virtual DJ Master Out > Output 1 of Quark SC
-Headphones Out > Output 2 of Quark SC
Headphones output is a blend of both signals as explained at part 1.2.

2.2.3. Virtual DJ LE updates

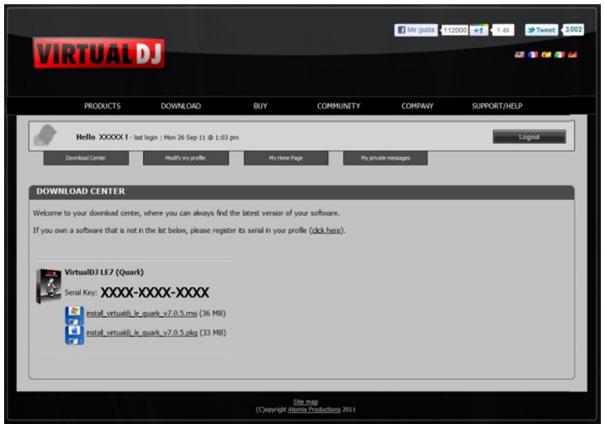
To update your software follow the steps:
-Open web page:
<http://www.virtualdj.com/download/updates.html>.
This is VirtualDJ download page.
- Register or fill user name and password to access download.
Once you access your account you will see a window as below:



- Click at (click here) to register your software for the first time. At following updates you will directly be directed to last point.
- Next you will see the window below, fill it with your serial number typed at your CD.



- An icon with name Quark SC will show up. At this page you can find the available updates for Quark SC. Download from this page.

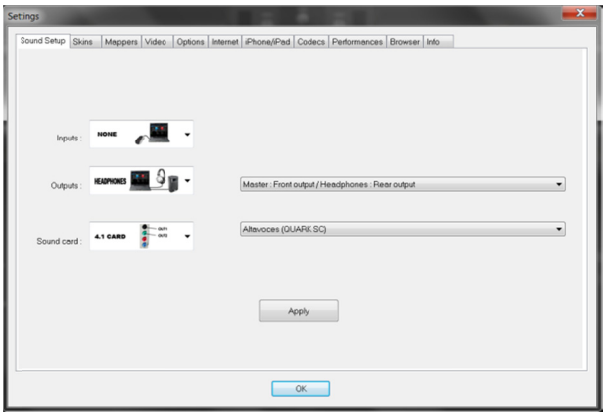


2.2.4. Virtual DJ Pro Configuration

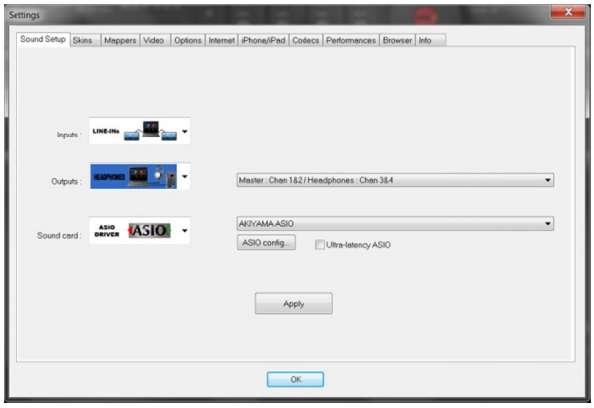
Virtual DJ PRO will automatically recognise Quark SC controller. Therefore you will only have to configure the sound card.

Windows Configuration

At Virtual DJ we can use the input only if we use ASIO drivers you can download them free from www.akiyamadj.com. Also you can find the drivers at the CD provided with QUARK SC.
If you do not use ASIO drivers follow the steps for setting configuring the Outputs:
Select Config/Sound Setup and select the following options:
- Inputs → NONE.
- Outputs → HEADPHONES → Master: Frontal output / Headphones: Rear output.
- Sound card → 4.1 CARD → Speakers: (QUARK SC).



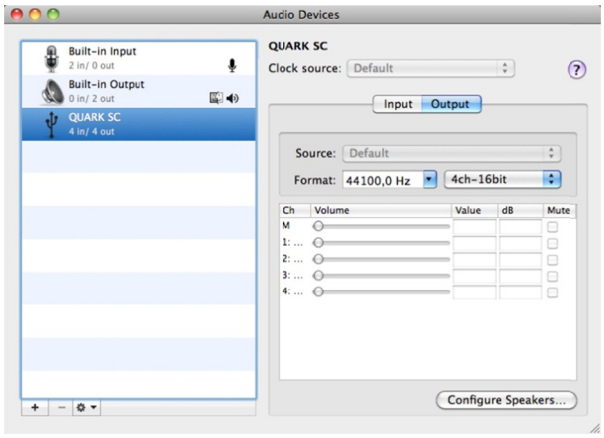
With disregard to the assignation seen at Virtual DJ, for the sound card (IN/OUT) with this configuration we have:
-Virtual DJ Master Out > Output 1 of Quark SC
-Headphones Out > Output 2 of Quark SC
Headphones output is a blend of both signals as explained at part 1.2.
If we use the ASIO drivers you shall configure Virtual DJ as follows:
Select "Config/Sound Setup" and proceed as follows:
-Inputs → LINE-INs.
-Outputs → HEADPHONES → Master: Chan 1&2 / Headphones: Chan 3&4.
-Sound card → ASIO DRIVER → AKIYAMA ASIO.
-Configure Akiyama ASIO driver as it is explained at part 2.1.2.



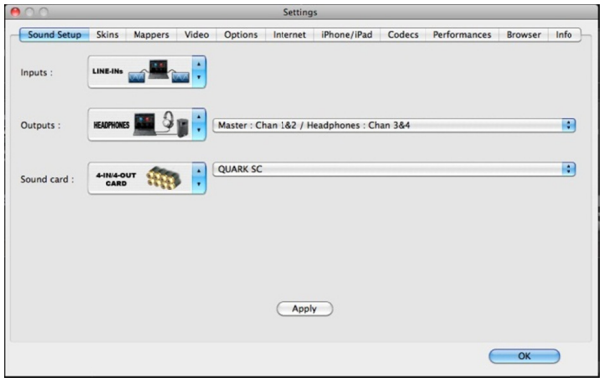
Inputs LINE-INs are activated selecting AUX at the desired Deck.
Starting from a standard configuration you can perform some modifications. If you want to use an external mixer you shall select "EXTERNAL MIXER" at Outputs and assign each channel 1&2 and 3&4 to a Deck. To use time code inputs you shall change the option Inputs to TIMECODES (if you are going to use turntables remember to select Phono).
For other configurations read Virtual DJ manual.

MAC Configuration

Open the application "Audio MIDI Setup" found at the Utilities folder of your Mac. "Audio MIDI Setup" window will show up.



Your Mac detects Quark SC as an external device with 4 INs/4 OUTs. We can use both INs/OUTs upon the desired configuration. Select "Config/Sound Setup" and configure as follows:
-Inputs → LINE-INs.
-Outputs → HEADPHONES → Master: Chan 1&2 / Headphones: Chan 3&4.
-Sound card → 4-IN/4-OUT CARD → QUARK SC.



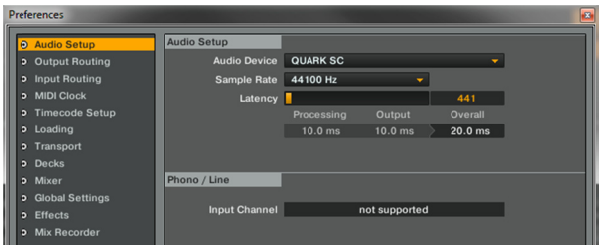
The inputs "LINE-INs" are activated selecting AUX at the appropriate Deck. In case you want to use an external mixer you shall select "EXTERNAL MIXER" at Outputs and assign each channel 1&2 and 3&4 to a Deck. To use time code inputs you shall change the option Inputs to TIMECODES (if you are going to use turntables remember to select Phono). If no inputs will be used select NONE. For other configurations read Virtual DJ manual.

2.3. Traktor

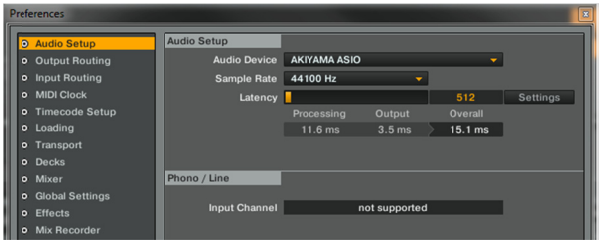
At Quark SC box you will find an Overlay purpose designed for TRAKTOR 2 with Quark SC. Al controls functions correspond to the MIDI map that you can find at your CD at Quark SC box. These maps are set to work with 4 Decks. Decks A and B will be TRACK DECK type and Decks C and D will be SAMPLE DECK type.

2.3.1. Sound Configuration

We recommend using the Akiyama ASIO drivers, you can download them free from www.akiyamadj.com. Also you can find the drivers at the CD provided with QUARK SC.
First you have to select Quark SC sound card. To do so, access the PREFERENCES window and select "Audio Setup", select QUARK SC from the list of "Audio Device" as seen below:

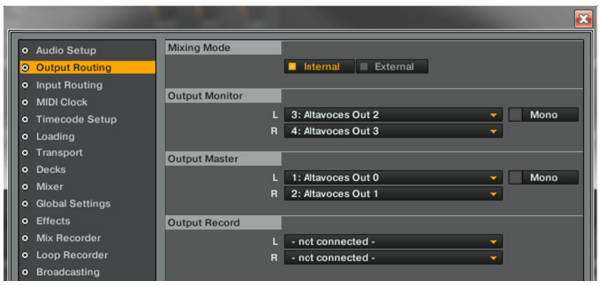


If you use Akiyama ASIO drivers, the window will be as below:

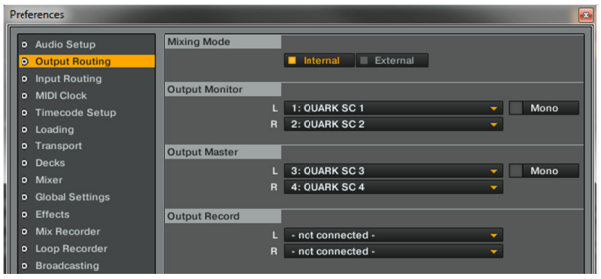


Outputs:

If you chose not to use Akiyama ASIO drivers the more usual configuration will be as seen below:



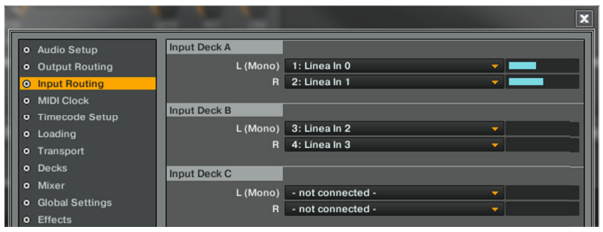
Note here that:
-Output Monitor (headphones) is assigned Out2 and Out3.
-Output Master (Main amplifcatiion system) is assigned Out0 and Out1.
If you use the Akiyama ASIO drivers the Output Routing window will look like:



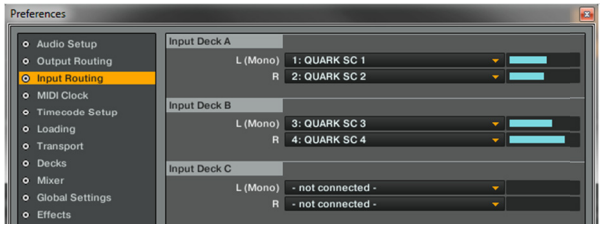
For any other configuration read TRAKTOR manual.

Inputs:

If you do not use Akiyama ASIO drivers only one input will be available through the controller which has two physical Inputs. In this case both inputs (Input 1 and Input 2) will act the same. You can use both indistinctively.
If you need two different inputs you must use Akiyama ASIO drivers.



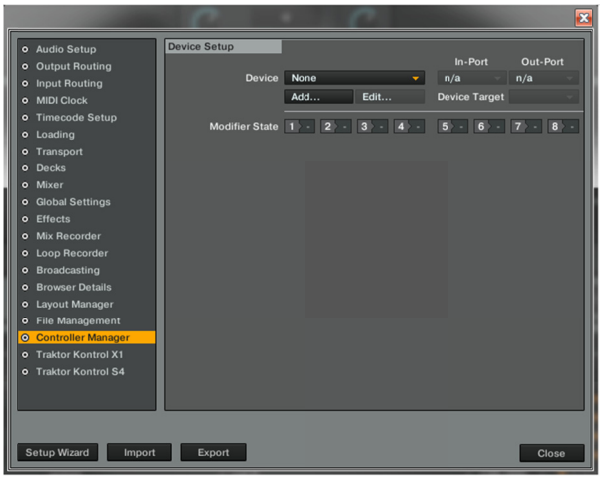
With Akiyama ASIO drivers the Input Routing window will be like below:



2.3.2. Controller Configuration

At Quark SC box you will find an Overlay purpose designed for TRAKTOR 2 with Quark SC. This Overlay depicts the maps provided at file QUARKSC_Track&Sample.tsi (QUARK SC). This and other tsi extension MIDI maps can be found at the Quark SC.

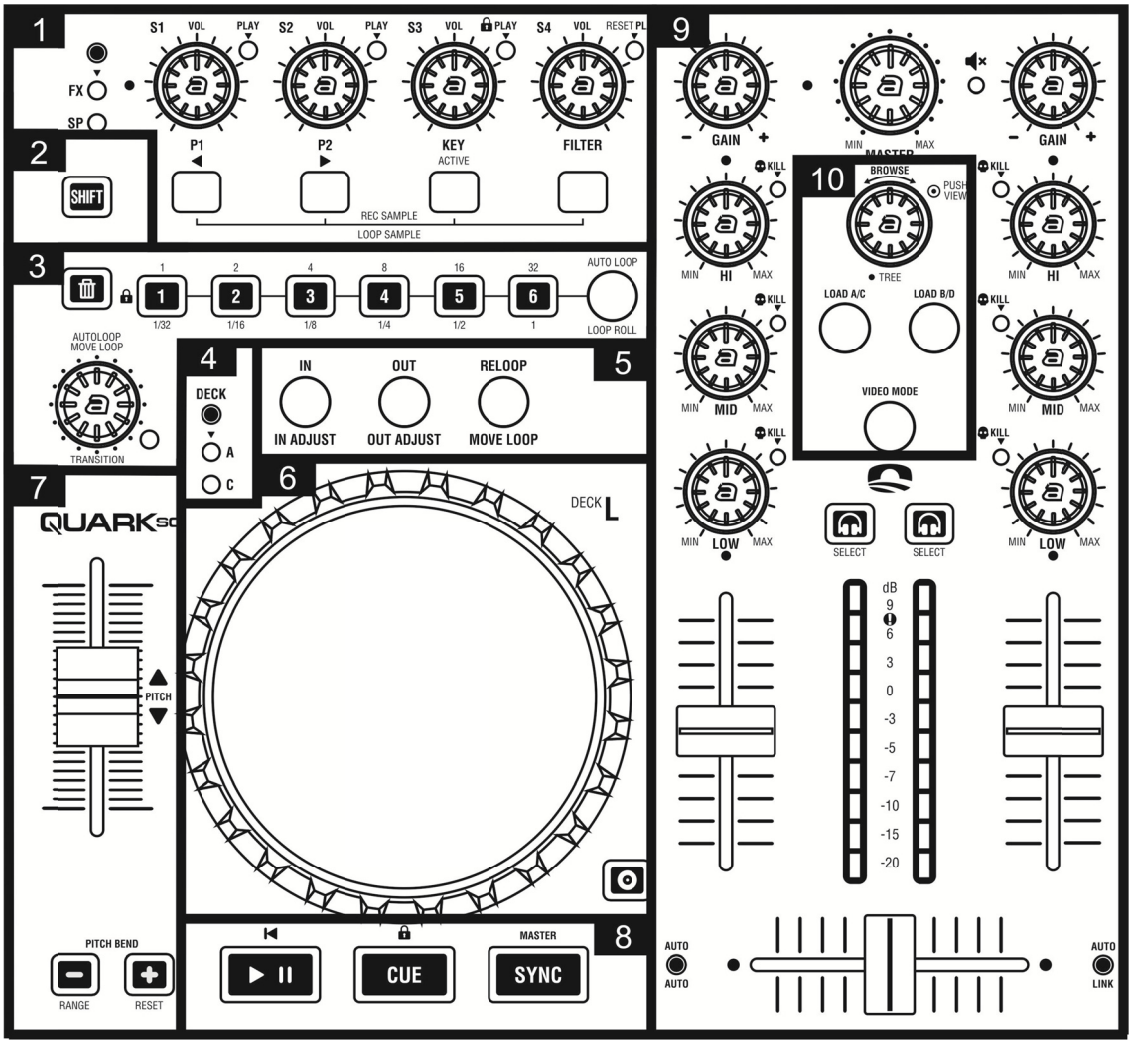
To load these files (MIDI maps) at your TRAKTOR 2 go to Preferentes/Controller Manager and press Import.



As you press Import a window with a Browser will appear then you can select the tsi file at the folder where you have the MIDI MAPS.

3. FUNCTIONS AND CONTROLS

3.1. Virtual DJ



1. EFECTOS/SAMPLERS
The controls included in this region can be used to control EFFECTS (FX) as well as SAMPLERS (SP). It can be switched between these two modes by pressing the button above FX/SP LED:

FX MODE:
-Two parameters of effects can be adjusted by turning P1 and P2 knobs.
-Turn the KEY knob to change the song's key. Push it to lock the key.
-Use the Filter knob to change and reset Filter.
-Use the buttons to select one effect ( ) and activate it (ACTIVE).
NOTE: FX controls modify the effect of the selected deck (see point 4).

SP MODE:
-Play/Pause a sample by pressing a knob. Each knob S1/S8 is associated with one sample.
-Turn the knob to adjust the volume of the sample.
-Start/Stop recording a sample by pressing the button corresponding to the sample number. The active deck will be recorded.
-Press SHIFT + button to switch between looped or one-shot mode.

2. SHIFT
The Shift Button provides a second MIDI layer for the selected deck.
-Press the button labelled with a bin (3) while keeping SHIFT pressed to make SHIFT remain activated even when SHIFT button is released. Press the button labelled with a bin again to deactivate SHIFT.

3. MULTIMODO HOTCUE/LOOP
The round button provides one MIDI layer for each mode for all the controls inside the box labelled with a 3. Change from one mode to another by pressing it.
-Adjust the loop size by turning the encoder and activate/deactivate the loop by pressing it.
-Press SHIFT+ turn encoder to move the loop the same size the loop has.
-Under Video mode turn the encoder to select a Transition (deck L) or an Effect (deck R). Press the encoder to activate/deactivate the Transition or Effect.
-Under Video mode press SHIFT + turn the encoder to adjust the loop size.

HOT CUE (round button unlit):
-A hot cue can be set and stored by pressing any of the 6 numbered cue buttons if the selected cue slot is free (unlit LED).
-Press any cue buttons, which have a cue point stored, to trigger the stored cue.

-Hot cues can be deleted by pressing the cue button while holding the button labelled with a bin.
-Press SHIFT + HOT CUE 1 to activate/deactivate Smart Hot Cue.
-A yellow lit button means that there is a hot cue saved.

AUTO LOOP (round button orange):
-An autoloop is set by pressing any of the 6 numbered buttons. The autoloop size depends on the pressed button and can be set from 1 to 32 beats.
-The autoloop is deactivated by pressing the button corresponding to the actual size.
-Change the loop size by pressing a button which has associated a size different than the actual active loop size.
-Press SHIFT + HOT CUE 1 to activate/deactivate Smart Loop.
-In this mode all buttons will light orange. The button corresponding to the active loop size will blink.

LOOP ROLL (round button green):
-An autoloop is set by pressing any of the 6 numbered buttons. The autoloop size depends on the pressed button and can be set from 1/32 to 1 beat. The loop will be active only while the button is hold.
-Press SHIFT + HOT CUE 1 to activate/deactivate Smart Loop.
-In this mode all buttons will light green. The button corresponding to the active loop size will blink.

4. DECK SELECT
Switch between decks A/C and decks B/D.

5. LOOP
-Set the starting point of a loop by pressing IN button.
-Press OUT button to set the ending point of the loop.
-Press RELOOP to jump to the starting point of the loop. If loop is not activated, the last set loop will be activated.
-Press SHIFT + IN to enter in a mode in which the starting point of the loop can be modified, IN ADJUST. The IN button will blink while this mode is active. Turn the jogwheel to modify the starting point. Press SHIFT + IN to exit from the mode. If this mode is active but there is not any loop active, the last set loop will be activated when the jogwheel is turned.
-Press SHIFT + OUT to enter in a mode in which the ending point of the loop can be modified, OUT ADJUST. The performance of this mode is equivalent to the IN ADJUST mode but in this case the ending point is adjusted.
-Enter to MOVE LOOP mode by pressing SHIFT + RELOOP. Performance is similar to IN/OUT ADJUST but in this case loop can be moved..

6. JOGWHEEL
Press SCRATCH button to toggle the wheel mode between CDJ and Vinyl.
-Use the jogwheel to scratch or modify the pitch bend.
-Use SHIFT + jogwheel to search through the track
-Under Video mode press SHIFT + turn jogwheel to adjust the parameter of the effect

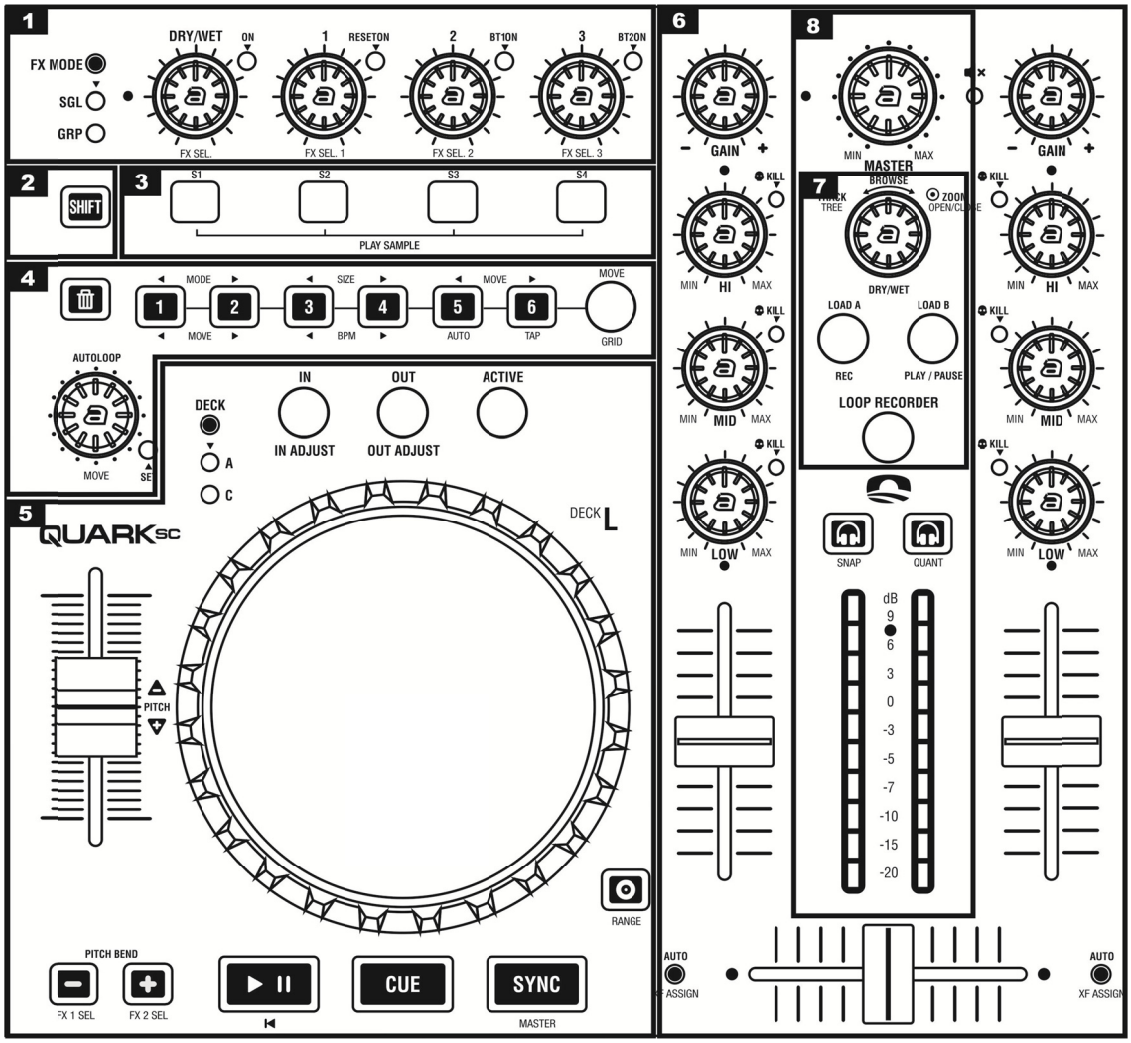
7. TEMPO
-Use the Pitch Fader to control the deck's tempo.
-Use the Pitch Bend buttons for pitch bending.
-Tempo Range can be selected by pressing SHIFT + pitch bend (-).
-Reset the tempo by pressing SHIFT + pitch bend (+).

8. TRANSPORT
-Press Play/Pause button to Start/Stop playback of deck.
-Press SHIFT + Play/Pause to skip to the first beat of the track.
-If song is paused, set a new cue point or if you are in the cue point position play the track from the cue point by pressing the CUE button and return to cue point when released. If song is playing, press CUE to pause the reproduction and jump to the last cue point.
-Use SHIFT + CUE to activate/deactivate Smart Play.
-Use the SYNC button to match the BPMs of different tracks.
-Press SHIFT + SYNC to set to master the deck in which it has been pressed.

9. MIXER
-Tweak the sound using the 3-Band EQ
-Turn the MASTER knob to adjust the volume of the master signal.
-Adjust the deck volume by turning the gain knob.
-Select the deck that must be pre-listened by pressing the Monitor buttons (labelled with headphones).
-Press SHIFT + Monitor button to select the beat of the working deck which will be shown in front in the display.
-Use the Linefader and Crossfader for mixing.
-Use AUTO buttons to automatically crossfader to the other deck.
-Under Video mode press LINK to link or unlink the video crossfader to the audio crossfader.
-Under Video mode use AUTO to move the video crossfader automatically.

10. BROWSER
-Turn the encoder to scroll through the songs.
-Press SHIFT + turn the encoder to scroll through the folders.
-Load the song to the active deck by pressing LOAD buttons.
-Press the encoder to open or close the subfolders of the selected folder (when focus is on folders).
-Press SHIFT + encoder to open or close the subfolders of the selected folder (when focus is on folders).
-Switch the mixer section between mixer and video by pushing VIDEO MODE.

3.2. Traktor PRO 2



1. FX MODE.
There is SINGLE and GROUP modes.
In mode SINGLE (SLG) we modify different parameters of a given effect. In mode GROUP (GRP) we modify one parameter of each of the three effects we can use in together.
- SGL: Changes to GROUP mode.
- GRP: Changes to SINGLE mode.
- DRY/WET:
SGL and GRP: Determines the amount of processed signal (by the effect) versus original signal that will be played.
- FX ON:
SGL: ON/OFF the effects module.
Shift (SGL): Selects the next effect on the list.
- FX 1:
SGL: Adjusts the Parameter 1 of the selected effect.
GRP: Adjusts the level of the effect 1.
- FX RESET:
SGL: Return to the original (manufacturer) configuration.
Shift (SGL): Selects the previous effect on the list.
GRP: effect 1 ON/OFF.
Shift (GRP): Selects the next effect on the list.
- FX 2:
SGL: Adjusts the Parameter 2 of the selected effect.
GRP: Adjusts the level of the effect 2.
- FX BUTTON 1:
SGL: function upon selected effect ON/OFF.
GRP: effect 2 ON/OFF.
Shift (SGL): Selects the next effect on the list.
- FX 3:
SGL: Adjusts the Parameter 3 of the selected effect.
GRP: Adjusts the level of the effect 3.
- FX BUTTON 2:
SGL: function upon selected effect ON/OFF.
GRP: effect 3 ON/OFF.
Shift (GRP): Selects the next effect on the list.

2. SHIFT.
SHIFT button duplicates the functions of the controls of the deck. There are two modes:

- SHIFT is active while the button is pressed.
- To engage permanently SHIFT mode press SHIFT and DELETE while keeping SHIFT pressed. To return to normal Shift mode press DELETE again.

SHIFT button will light when shift is engaged.
Each Deck has a SHIFT button. SHIFT button of right deck only affects the controls of right deck. SHIFT button of left deck only affects the controls of left deck.

3. PLAY SAMPLE (TRACK DECK).
- S 1: plays sample at slot 1.
Shift: Switches between the two possible sizes of the Deck.
- S 2: plays sample at slot 2.
Shift: Shows/hides Advanced Panel.
- S 3: plays sample at slot 3.
Shift: Waveform Zoom IN.
- S 4: plays sample at slot 4.

Shift: Waveform (Zoom OUT.

3. PLAY SAMPLE (SAMPLE DECK).
- S1 - S4: Records at the tracks list the sample of the corresponding slot.

4. MULTIMODE (TRACK DECK).
- SELECT MODE:
The round button switches between the three possible modes of the advanced panel (CUE/MOVE/GRID).
The function of the multimode buttons, knobs and encoder will change upon the selected mode.
- DELETE (🗑):
Delete Cue points. Press DELETE buttons and also press the Hot CUE button you want to delete. Delete function is active only in CUE mode.
Shift: Enables Shift in permanent mode.
- BUTTON 1:
CUE: Hot cue 1
Shift: Memorizes a cue/Loop at the first available cue point.
MOVE: Selects track move mode. With this button we select Move Mode.
GRID: Displaces Grid backwards.
- BUTTON 2:
CUE: Hot cue 2
Shift: no function.
MOVE: Selects track move mode. With this button we select next Move Mode option.
GRID: Displaces Grid forward.
- BUTTON 3:
CUE: Hot cue 3
Shift: Jumps to the next cue point.
MOVE: Selects the movement size.
GRID: BPM fine tuning.
- BUTTON 4:
CUE: Hot cue 4
Shift: Jumps to the previous cue point.
MOVE: Selects the movement size.
GRID: BPM fine tuning.
- BUTTON 5:
CUE: Hot cue 5
Shift: Select Cue point type from a list. Choose previous option at the list.
MOVE: Moves playback point backwards.
GRID: Grid automatic adjust.
- BUTTON 6:
CUE: Hot cue 6
Shift: Select Cue point type from a list. Choose next option at the list.
MOVE: Moves playback point forward.
GRID: Tempo automatic adjust.
- AUTOLOOP: Turn the control to select loop size. Press to set the loop. The LED blinks when a loop is set.
Shift: Turn the control to move the loop through the track. This function operates only when a loop is playing.

4. MULTIMODE (SAMPLE DECK).
- SELECT MODE: The round button switches between the three possible modes of Sample Deck:
SELECT SLOT: This mode is for activating the different Slots. When a slot is active we can perform some actions upon it (volume setting, scratch, pitchbend, play/pause and others).
DECK LOAD: On this mode we can load loops from Deck A or B. First you have to select the slot where to load the loop with SELECT SLOT.
LIST LOAD: On this mode we can load loops from a list of songs/tracks or loops or the loops from the LOOP RECORDER.
- DELETE (🗑):
On this mode we can delete the loop loaded on the selected slot.
Shift: Engages SHIFT permanently.
- BUTTON 1 - 4:
SELECT SLOT: Select slot 1-4.
DECK LOAD: Loads the loop from the deck to slot 1-4.
Shift: Loads the loop from the opposite deck.
LIST LOAD: Loads the loop from the tracks list to slot 1-4.
Shift: Loads the loop from the LOOP RECORDER section to slot 1-4.
- BUTTON 5:
SELECT SLOT: All slots from one deck are selected at once.
DECK LOAD: No function.
LIST LOAD: No function.
- BUTTON 6:
SELECT SLOT: While the button is pressed all Samples of a given deck will activate.
DECK LOAD: No function.
LIST LOAD: No function.
- AUTOLOOP: Turning the control we set the Slot volume. Press the control to silence the slot.
The LED light when the slot is muted.
Shift: Turning the control we adjust the filter at the selected Slot. Pressing the control the filter is turned off.

5. TRANSPORT/JOG WHEEL (TRACK DECK).
- PLAY/PAUSE: Start/Stop playback.
Shift: Skips to the track beginning.
- CUE: Skips to the last Cue set.
- SYNC: Synchronizes the BPM value with the BPM master.
Shift: MASTER Function. Selects which deck is the master tempo.
- ACTIVE: ON/OFF "loop active" function. This function is automatically activated each time we set an Autoloop or a loop with IN/OUT buttons.
- IN: Sets the beginning of a loop.
IN ADJUST: Meanwhile you press the button use the wheel to adjust the starting point of loop. Loop must be playing.
- OUT: Sets the end of a loop.
OUT ADJUST: Meanwhile you press the button use the wheel to adjust the end point of loop. Loop must be playing.
- PITCH FADER: Adjusts the tempo of the deck.
- PITCHBEND: Adjusts the tempo of the deck while buttons are pressed. When released tempo return to original value.
Shift: Assigns FX1 and FX2 modules to each deck.
- SCRATCH ( ): ON/OFF SCRATCH mode.
Shift: Changes pitch range upon the given values.
- DECK: Selects SAMPLE DECK (C/D).
- JOG WHEEL: Turn the wheel to adjust the deck tempo.
SCRATCH: Turn to perform scratch when SCRATCH mode is ON.
LOOP ADJUST: Turn the wheel to adjust start and end point of a loop pressing buttons IN/OUT.
Shift: Fast move through a track.

5. TRANSPORT/JOG WHEEL (SAMPLE DECK).
- PLAY/PAUSE: Start/Stop playback of selected slot.
- CUE: Toggles between simple play and loop play of the sample.
- SYNC: Synchronizes the BPM value of the active slot.
- IN: sample size is halved.
- OUT: sample size is doubled.
- ACTIVE: sets sample size to original value.
- PITCH FADER: Sets the tempo of the active slot.
- PITCHBEND: Adjusts the tempo of the sample while buttons are pressed. When released tempo return to original value.
Shift: Assigns FX1 and FX2 modules to each deck.
- SCRATCH ( ): Pressing the buttons the selected sample playback stops. If we turn the wheel with the button pressed we have scratch effect.
- DECK: Selects TRACK DECK (A/B).
- JOG WHEEL: turn the wheel to set the tempo of the active slot.
SCRATCH: press/hold the button to enable scratch effect.

6. MIXER/EQ.
- HIGH: turn to control the high frequencies and mutes/KILL them when pressed, LED will light when mute is on.
Shift: Press to activate the FILTER and turn to adjust it.
- MID: turn to control the mid frequencies and mutes/KILL them when pressed, LED will light when mute is on.
Shift: Press to activate the KEY LOCK and turn to adjust KEY.

- LOW: turn to control the low frequencies and mutes/KILL them when pressed, LED will light when mute is on.
Shift: turn to adjust PAN function.
- GAIN: turn to adjust channel Gain.
- AUTO: Press and there is an automatic crossfade to the selected side (Left/Right).
Shift: Assigns crossfade Left or Right to each of the 4 decks.

7. LOOP RECORDER.
- LOOP RECORDER: Press to engage LOOP RECORDER mode. The button will light.
- DRY/WET: Determines the amount of processed signal versus original signal that will be recorded. Press to select loop size.
- REC: Press to engage REC function on LOOP RECORDER mode. Once the loop size is surpassed the REC function is not active anymore.
- PLAY/PAUSE: PLAY/PAUSE function in LOOP RECORDER mode.
Shift: DELETE function. Erases the loop created under LOOP RECORDER.

8. MIXER/BROWSER.
- MASTER: sets the main output level or volume.
- BROWSER: Turn the encoder to browse through your list of songs/tracks. Press to enlarge the browser window.
Shift: Turn the encoder to browse through your list of folders. Press to open/close the folders.
- LOOP RECORDER: Press button to activate LOOP RECORDER mode.
Shift: Toggles vu-meter view mode. In first case vu-meters will show Left channel level and Right channel level respectively. Second press and vu-meters will show MASTER stereo output level.
- LOAD A/B:
Loads selected track to selected Deck.
- MONITOR CUE LEFT ( ):
Pre-listen Left channel at headphones.
Shift: SNAP function ON/OFF.
- MONITOR CUE RIGHT ( ):
Pre-listen Right channel at headphones.
Shift: QUANTIZE function ON/OFF.

4. CONFIGURATION AND UPDATE

4.1. Wheel sensibility adjust

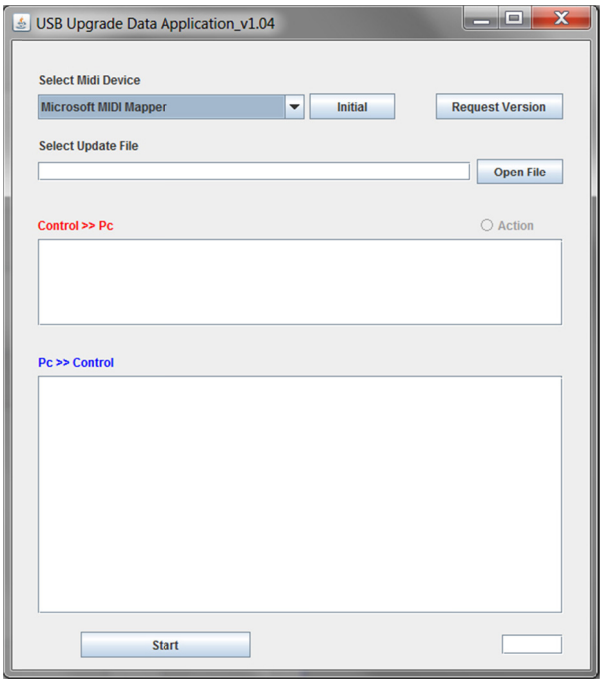
Follow the steps:
- Turn OFF the Controller.
- Press/hold LOAD B/D button.
- Turn ON the Controller while LOAD B/D is pressed.
- Adjust sensibility turning “TOUCH SENSITIVE” little knobs.
-Once sensitivity is adjusted press LOAD A/C to exit Wheel sensitivity adjust mode.

4.2. Firmware Version

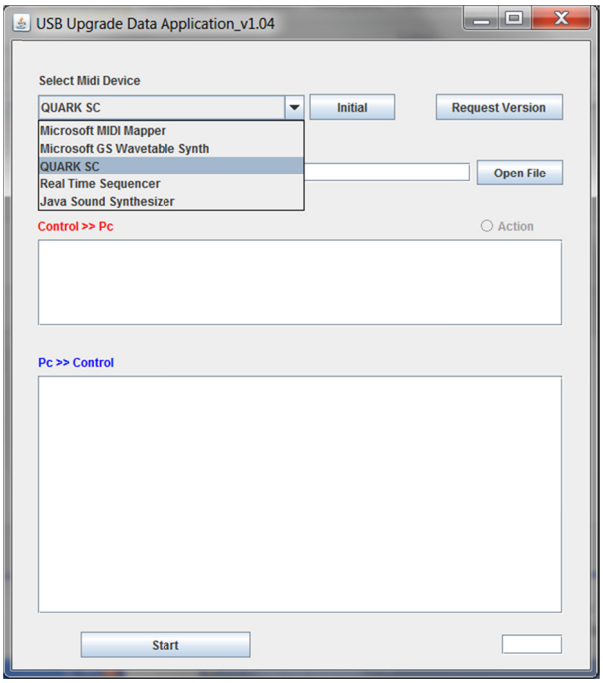
Follow the steps to view the firmware version currently installed.
- Turn OFF the Controller.
- Press/hold Right channel Headphones button while you Turn ON the Controller.
- Vu-meter LEDs will show firmware version until you depress the button.
e.g.: if firmware version is 2.3, two LEDs at Left LED bar will light and 3 LEDs at Right LED bar will light..

4.3. Firmware Update

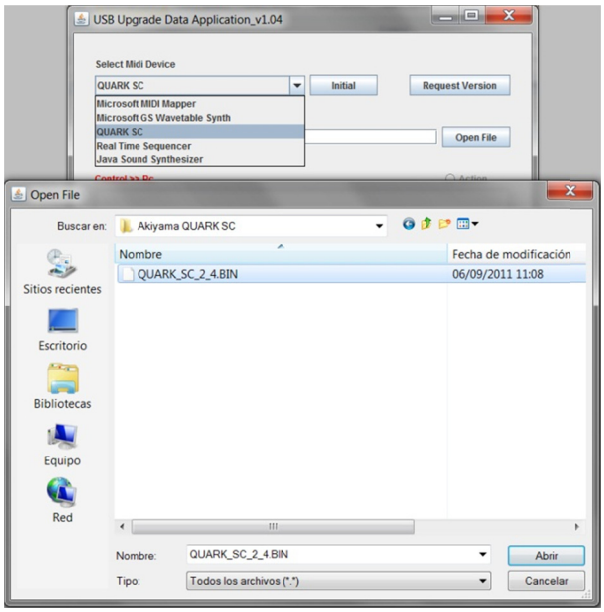
Follow the steps to Update Firmware:
Note: only possible to update from a computer with Windows O.S.
- Turn OFF the Controller and connect it through USB to your computer.
- Press/Hold VIDEO MODE button.
- Turn ON the Controller while VIDEO MODE button is pressed
- Depress the button when it lights up.
- Open update program by double clicking the file UsbUpgDataApp_v1.04.jar you have at your CD supplied with Quark SC or download it from Akiyama web.
- A window as below will pop up:



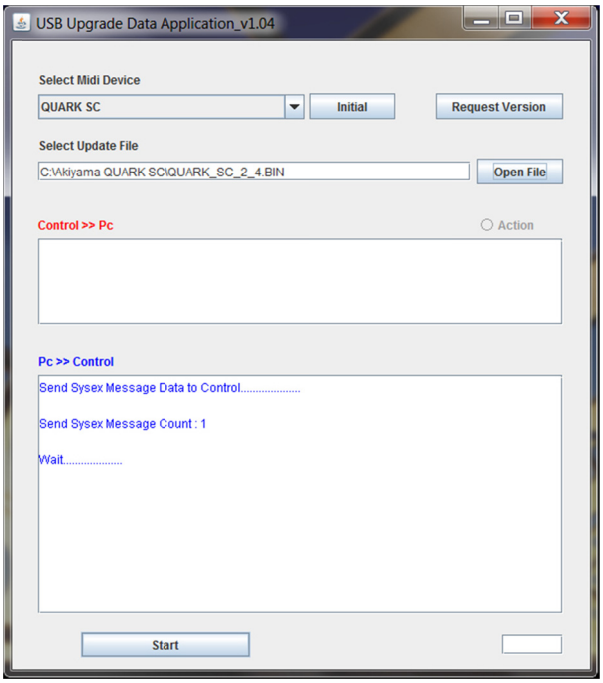
- Press Initial.
- Select QUARK SC found at list under “Select MIDI Device”.



Click “Open File”:
A window will show up, search the appropriate firmware file at the browser of the window:



Press Start:



-When firmware update is finish all LEDs of Quark SC will light up.
-Reboot the controller before using it with the updated firmware.

5. APENDIX

5.1. MIDI Specifications

A DJ Software have the “mapping” function that assigns MIDI messages to the different functions of the DJ Software.
We also have to match the DJ Software functions with the controls of the external device (the controller). We do so by assigning the DJ Software function and the control the same MIDI note or message.
Each of Quark SC controls generates various MIDI messages you can see at table QUARK MIDI MAP. We can send the MIDI messages through channels 1 to 16, this is a MIDI standard. We can see three different parts on a MIDI message:
- The MIDI code (MIDI CODE) lets us know what type of message is sent.
- The FUNCTION CODE gives us the note or control value.
- The action let us know the value that the control attains when is manipulated.
At the table we have a column for each of the three parts of a MIDI message. The controls are grouped upon their in type so also upon their MIDI code.
DJ Software’s use two types of MIDI codes:
- “Control Note” (switch): the control is a switch (you see a button) or a LED and will look like NOTE C2. Each note has a number that at the table is expressed in Hexadecimal (HEX). Further on at this manual we will explain how notes and numbers correspond to each other and how to change from hexadecimal to decimal. In this case MIDI CODE is 9 and FUNCTION CODE is the note of the control.
- “Control Change” (CC): the control will be a potentiometer or encoder and will have a label like Cc53. In this case MIDI CODE is B and FUNCTION CODE is a value between 0 and 127. We will associate a value to each control of the kind.
Upon the value of the action part of the MIID message we will classify the controls as follows:
a- NOTE-KEY: are note type messages. Action value can be 127 (7FH) when we press or 0 when we release.
b- NOTE-LED: determines the LED that will light, are note type messages as the switches and the values are 127 for LED ON and 0 for LED OFF. In the LEDs case it is the DJ Software that sends the MIDI messages to the controller.
c- CC-ABSOLUTE (VR) - CC “Control Change” Absolute. These are potentiometer like controls. The action value is a number between 0 an 127 upon the potentiometer position.
d- CC-RELATIVE (ENCODER/WHEEL) - CC “Control Change” Relative. These are encoder like controls. As oppose to the potentiometer that encoder does not send a message to report its position but only report changes when turning to clockwise or anticlockwise. It is sent the value 63 (3FH) if it turns to the left and 65 (41H) if it turns to the right.

e- CC-LEVEL LED. The value sent in the action from 0 to 127 will tell how many LEDs are to be turned ON at the vu-meter. At the before last column on the table you can find in the compressed way the values that each action can attain. There are DJ Software's where it is not necessary know note values or control values because this software "read" them automatically. That is called the "Learn mode" where by touching a control it assigns its note to a certain function selected by the user.
At other software you have to wright manually the values or for the LEDs at any software you have to do the writing because there is no Lear mode for exiting MIDI messages (i.e. LEDs). Therefore we recommend you try understanding the meaning and workings of the table QUARK MIDI MAP.
Following, we explain the columns of the MIDI MAP:
FUNCTION: here find the name of the control of Quark SC as seen on its printing.
MIDI CODE: indicates if the message is a Control Note (9) or Control Change (B).
CHANNEL+MIDI CODE: appears MIDI CODE values with the channel (minus 1) used to send the message. Forward in this manual we explain the MIDI channels used at QUARK SC.
FUNCTION CODE: at this column we have the value of the note.
ACTION: here we have the action value. The different values that can attain are explained at parts a) and e).
Note: the MIDI MAP is presented in hexadecimal base > NOTE or CC. To assign physical control to software functions you need to translate the MIDI MAP into decimal base.
Following, we explain have to find out this equivalence HEX-DEC:

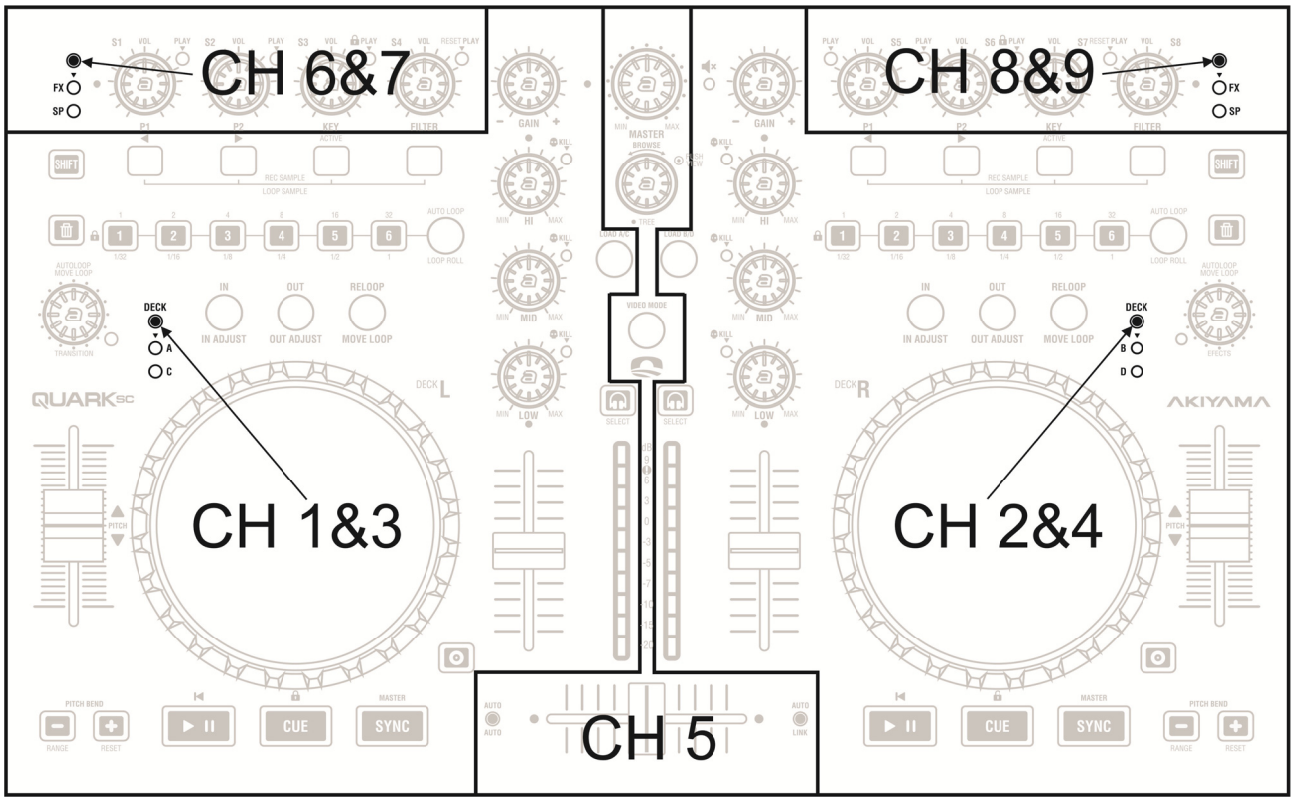
	0H	1H	2H	3H	4H	5H	6H	7H	8H	9H	AH	BH	CH	DH	EH	FH
0H	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
1H	1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241
2H	2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242
3H	3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243
4H	4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244
5H	5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245
6H	6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246
7H	7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247
8H	8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248
9H	9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249
AH	10	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250
BH	11	27	43	59	75	91	107	123	139	155	171	187	203	219	235	251
CH	12	28	44	60	76	92	108	124	140	156	172	188	204	220	236	252
DH	13	29	45	61	77	93	109	125	141	157	173	189	205	221	237	253
EH	14	30	46	62	78	94	110	126	142	158	174	190	206	222	238	254
FH	15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255

To translate a Hexadecimal base number into a Decimal base we have to:
- find the column that has the number that appears at the left.
- find the row that has the letter that accompanies the number.
- the convergence of row and column is the equivalent DEC number.

Inversely to translate an DEC base number into a Hex base we have to:
- find the number at the table. Its column is the first hex digit, the second hex digit is it row.
E.g. Play control MIDI address is 34. Find the DEC equivalence at the Hexa-Dec table: Column 3 / Row 4 it is decimal number 52.
Some softwares require not only know the decimal value but also the corresponding note (for control change the decimal number is enough). We can perform the Note-Decimal number equivalence using the following table:

Octave #	Note Numbers											
	C	**C#**	**D**	**D#**	**E**	**F**	**F#**	**G**	**G#**	**A**	**A#**	**B**
-1	0	1	2	3	4	5	6	7	8	9	10	11
0	12	13	14	15	16	17	18	19	20	21	22	23
1	24	25	26	27	28	29	30	31	32	33	34	35
2	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59
4	60	61	62	63	64	65	66	67	68	69	70	71
5	72	73	74	75	76	77	78	79	80	81	82	83
6	84	85	86	87	88	89	90	91	92	93	94	95
7	96	97	98	99	100	101	102	103	104	105	106	107
8	108	109	110	111	112	113	114	115	116	117	118	119
9	120	121	122	123	124	125	126	127				

To find the note associated to a decimal number just take the column where the number is as the note and the row is the octave. Following the example presented before the corresponding note to Play button is E3.
As seen at FUCTION CODE column of the MIDI table, each of the controls of QUARK SC can send two different messages upon the state of the Shift button. Remember we can permanently engage Shift.
QUARK SC can be divided is 5 parts and the controls that fall in each of these parts are sent through a different MIDI channel.
The central part of the controller has the controls to be sent through channel 5.
There are two areas that are not dependent upon Deck selection. These areas are devised to control effects and samples. Press FX/SP button and the MIDI messages will be sent through two different channels, 6 and 7 for the controls at the left side of the controller and 8 and 9 for the controls at the right side of the controller.
Finally there are two more areas corresponding to Deck Left and Deck Right. The controls at the left deck will send messages through channels 1 and 3 and controls at the right deck will send messages through channels 2 and 4.
At the following table find the table comprising all explained up to now.



QUARK SC MIDI MAP							
	I/O	FUNCTION	MIDI CODE	CHANNEL+ MIDI CODE	FUNCTION CODE	ACTION	
KEY							
1	I	S1/P1	9	9X (X=5,7)	01H／41H(SHIFT ON)	7FH：ON／00H：OFF	SLOT=1,2
				9X (X=6,8)			SLOT=3,4
2	I	S2/P2	9	9X (X=5,7)	02H／42H(SHIFT ON)	7FH：ON／00H：OFF	SLOT=1,2
				9X (X=6,8)			SLOT=3,4
3	I	S3/KEY	9	9X (X=5,7)	03H／43H(SHIFT ON)	7FH：ON／00H：OFF	SLOT=1,2
				9X (X=6,8)			SLOT=3,4
4	I	S4/FILTER	9	9X (X=5,7)	04H／44H(SHIFT ON)	7FH：ON／00H：OFF	SLOT=1,2
				9X (X=6,8)			SLOT=3,4
5	I	DECK	9	9X (X=0,2)	07H	7FH：ON／00H：OFF	DECK=A,C
				9X (X=1,3)			DECK=B,D
6	I	SLOT	9	9X (X=5,7)	08H	7FH：ON／00H：OFF	SLOT=1,2
				9X (X=6,8)			SLOT=3,4
7	I	HI	9	9X	0AH／4AH(SHIFT ON)	7FH：ON／00H：OFF	
8	I	MID	9	9X	0BH／4BH(SHIFT ON)	7FH：ON／00H：OFF	
9	I	LOW	9	9X	0CH／4CH(SHIFT ON)	7FH：ON／00H：OFF	
10	I	SHIFT	9	9X	3FH	7FH：ON／00H：OFF	
11	I	DELETE	9	9X	16H(SHIFT NOT PRESS)	7FH：ON／00H：OFF	
12	I	</REC1	9	9X	0EH／4EH(SHIFT ON)	7FH：ON／00H：OFF	
13	I	>/REC2	9	9X	0FH／4FH(SHIFT ON)	7FH：ON／00H：OFF	
14	I	ACTIVE/REC3	9	9X	10H／50H(SHIFT ON)	7FH：ON／00H：OFF	
15	I	REC/REC4	9	9X	11H／51H(SHIFT ON)	7FH：ON／00H：OFF	
16	I	HOT CUE 1	9	9X	17H／57H(SHIFT ON)	7FH：ON／00H：OFF	NORMAL
					18H／58H(SHIFT ON)		AUTOLOOP
					19H／59H(SHIFT ON)		LOOP ROLL
17	I	HOT CUE 2	9	9X	1AH／5AH(SHIFT ON)	7FH：ON／00H：OFF	NORMAL
					1BH／5BH(SHIFT ON)		AUTOLOOP
					1CH／5CH(SHIFT ON)		LOOP ROLL
18	I	HOT CUE 3	9	9X	1DH／5DH(SHIFT ON)	7FH：ON／00H：OFF	NORMAL
					1EH／5EH(SHIFT ON)		AUTOLOOP
					1FH／5FH(SHIFT ON)		LOOP ROLL

QUARK SC MIDI MAP							
	I/O	FUNCTION	MIDI CODE	CHANNEL+ MIDI CODE	FUNCTION CODE	ACTION	
19	I	HOT CUE 4	9	9X	20H／60H(SHIFT ON)	7FH : ON／00H : OFF	NORMAL
					21H／61H(SHIFT ON)		AUTOLOOP
					22H／62H(SHIFT ON)		LOOP ROLL
20	I	HOT CUE 5	9	9X	23H／63H(SHIFT ON)	7FH : ON／00H : OFF	NORMAL
					24H／64H(SHIFT ON)		AUTOLOOP
					25H／65H(SHIFT ON)		LOOP ROLL
21	I	HOT CUE 6	9	9X	26H／66H(SHIFT ON)	7FH : ON／00H : OFF	NORMAL
					27H／67H(SHIFT ON)		AUTOLOOP
					28H／68H(SHIFT ON)		LOOP ROLL
22	I	MODE SEL	9	9X	29H	7FH : ON／00H : OFF	NORMAL
					2AH		AUTOLOOP
					2BH		LOOP ROLL
23	I	AUTOLOOP	9	9X	2CH／6CH(SHIFT ON)	7FH : ON／00H : OFF	NORMAL
					2DH／6DH(SHIFT ON)		AUTOLOOP
					2EH／6EH(SHIFT ON)		LOOP ROLL
24	I	IN	9	9X	2FH／6FH(SHIFT ON)	7FH : ON／00H : OFF	
25	I	OUT	9	9X	30H／70H(SHIFT ON)	7FH : ON／00H : OFF	
26	I	RELOOP	9	9X	31H／71H(SHIFT ON)	7FH : ON／00H : OFF	
27	I	PITCH －	9	9X	32H／72H(SHIFT ON)	7FH : ON／00H : OFF	
28	I	PITCH ＋	9	9X	33H／73H(SHIFT ON)	7FH : ON／00H : OFF	
29	I	PLAY	9	9X	34H／74H(SHIFT ON)	7FH : ON／00H : OFF	
30	I	CUE	9	9X	35H／75H(SHIFT ON)	7FH : ON／00H : OFF	
31	I	SYNC	9	9X	36H／76H(SHIFT ON)	7FH : ON／00H : OFF	
32	I	SCRATCH	9	9X	37H／77H(SHIFT ON)	7FH : ON／00H : OFF	
33	I	WHEEL TOUCH	9	9X	39H／79H(SHIFT ON)	7FH : ON／00H : OFF	
34	I	LOAD A/C	9	9X	3BH／7BH(SHIFT ON)	7FH : ON／00H : OFF	
35	I	PFL	9	9X	3CH／7CH(SHIFT ON)	7FH : ON／00H : OFF	
36	I	TRACK LIST	9	94	02H／42H(SHIFT ON)	7FH : ON／00H : OFF	CH 5
37	I	VIDEO MODE	9	94	03H／43H(SHIFT ON)	7FH : ON／00H : OFF	CH 5
38	I	CH 1 AUTO	9	94	05H／45H(SHIFT ON)	7FH : ON／00H : OFF	CH 5
39	I	CH 2 AUTO	9	94	06H／46H(SHIFT ON)	7FH : ON／00H : OFF	CH 5
ENCODER/WHEEL							
1	I	AUTOLOOP	0B	BX	2CH／6CH(SHIFT ON)	LEFT:40H-N／RIGHT:40H+N	NORMAL
					2DH／6DH(SHIFT ON)		AUTOLOOP
					2EH／6EH(SHIFT ON)		LOOP ROLL
2	I	WHEEL	0B	BX	39H／79H(SHIFT ON)	LEFT:40H-N／RIGHT:40H+N	
3	I	TRACK LIST	0B	B4	02H／42H(SHIFT ON)	LEFT:40H-N／RIGHT:40H+N	CH 5
VR							
1	I	S1/P1	0B	BX (X=5,7)	01H／41H(SHIFT ON)	00H~7F	SLOT=1,2
				BX (X=6,8)			SLOT=3,4
2	I	S2/P2	0B	BX (X=5,7)	02H／42H(SHIFT ON)	00H~7F	SLOT=1,2
				BX (X=6,8)			SLOT=3,4
3	I	S3/KEY	0B	BX (X=5,7)	03H／43H(SHIFT ON)	00H~7F	SLOT=1,2
				BX (X=6,8)			SLOT=3,4
4	I	S4/FILTER	0B	BX (X=5,7)	04H／44H(SHIFT ON)	00H~7F	SLOT=1,2
				BX (X=6,8)			SLOT=3,4
5	I	GAIN	0B	BX	09H／49H(SHIFT ON)	00H~7F	
6	I	HI	0B	BX	0AH／4AH(SHIFT ON)	00H~7F	
7	I	MID	0B	BX	0BH／4BH(SHIFT ON)	00H~7F	
8	I	LOW	0B	BX	0CH／4CH(SHIFT ON)	00H~7F	
9	I	PITCH	0B	BX	38H／78H(SHIFT ON)	00H~7F	
10	I	CH 1/2 VOL	0B	BX	3BH／7BH(SHIFT ON)	00H~7F	
11	I	SLOP	0B	BX	3EH／7EH(SHIFT ON)	00H~7F	
12	I	MASTER	0B	B4	01H／41H(SHIFT ON)	00H~7F	CH 5
13	I	FADER	0B	B4	04H／44H(SHIFT ON)	00H~7F	CH 5
LED							
1	O	S1/P1	9	9X (X=6,8)	01H／41H(SHIFT ON)	7FH : ON／00H : OFF	SLOT=1,2
				9X (X=7,9)			SLOT=3,4

QUARK SC MIDI MAP							
	I/O	FUNCTION	MIDI CODE	CHANNEL+ MIDI CODE	FUNCTION CODE	ACTION	
2	O	S2/P2	9	9X (X=6,8)	02H／42H(SHIFT ON)	7FH : ON／00H : OFF	SLOT=1,2
				9X (X=7,9)			SLOT=3,4
3	O	S3/KEY	9	9X (X=6,8)	03H／43H(SHIFT ON)	7FH : ON／00H : OFF	SLOT=1,2
				9X (X=7,9)			SLOT=3,4
4	O	S4/FILTER	9	9X (X=6,8)	04H／44H(SHIFT ON)	7FH : ON／00H : OFF	SLOT=1,2
				9X (X=7,9)			SLOT=3,4
5	O	HI	9	9X	0AH／4AH(SHIFT ON)	7FH : ON／00H : OFF	
6	O	MID	9	9X	0BH／4BH(SHIFT ON)	7FH : ON／00H : OFF	
7	O	LOW	9	9X	0CH／4CH(SHIFT ON)	7FH : ON／00H : OFF	
8	O	</REC1	9	9X	0EH／4EH(SHIFT ON)	7FH : ON／00H : OFF	
9	O	>/REC2	9	9X	0FH／4FH(SHIFT ON)	7FH : ON／00H : OFF	
10	O	ACTIVE/REC3	9	9X	10H／50H(SHIFT ON)	7FH : ON／00H : OFF	
11	O	REC/REC4	9	9X	11H／51H(SHIFT ON)	7FH : ON／00H : OFF	
12	O	HOT CUE 1	9	9X	17H	YELLOW	NORMAL
					18H	7FH : ON／00H : OFF	AUTOLOOP
					19H		LOOP ROLL
					57H	GREEN	NORMAL
					58H	7FH : ON／00H : OFF	AUTOLOOP
					59H		LOOP ROLL
13	O	HOT CUE 2	9	9X	1AH	YELLOW	NORMAL
					1BH	7FH : ON／00H : OFF	AUTOLOOP
					1CH		LOOP ROLL
					5AH	GREEN	NORMAL
					5BH	7FH : ON／00H : OFF	AUTOLOOP
					5CH		LOOP ROLL
14	O	HOT CUE 3	9	9X	1DH	YELLOW	NORMAL
					1EH	7FH : ON／00H : OFF	AUTOLOOP
					1FH		LOOP ROLL
					5DH	GREEN	NORMAL
					5EH	7FH : ON／00H : OFF	AUTOLOOP
					5FH		LOOP ROLL
15	O	HOT CUE 4	9	9X	20H	YELLOW	NORMAL
					21H	7FH : ON／00H : OFF	AUTOLOOP
					22H		LOOP ROLL
					60H	GREEN	NORMAL
					61H	7FH : ON／00H : OFF	AUTOLOOP
					62H		LOOP ROLL
16	O	HOT CUE 5	9	9X	23H	YELLOW	NORMAL
					24H	7FH : ON／00H : OFF	AUTOLOOP
					25H		LOOP ROLL
					63H	GREEN	NORMAL
					64H	7FH : ON／00H : OFF	AUTOLOOP
					65H		LOOP ROLL
17	O	HOT CUE 6	9	9X	26H	YELLOW	NORMAL
					27H	7FH : ON／00H : OFF	AUTOLOOP
					28H		LOOP ROLL
					66H	GREEN	NORMAL
					67H	7FH : ON／00H : OFF	AUTOLOOP
					68H		LOOP ROLL
18	O	AUTOLOOP	9	9X	2CH	7FH : ON／00H : OFF	NORMAL
					2DH		AUTOLOOP
					2EH		LOOP ROLL
19	O	IN	9	9X	2FH／6FH(SHIFT ON)	7FH : ON／00H : OFF	
20	O	OUT	9	9X	30H／70H(SHIFT ON)	7FH : ON／00H : OFF	
21	O	RELOOP	9	9X	31H／71H(SHIFT ON)	7FH : ON／00H : OFF	
22	O	PLAY	9	9X	34H／74H(SHIFT ON)	7FH : ON／00H : OFF	
23	O	CUE	9	9X	35H／75H(SHIFT ON)	7FH : ON／00H : OFF	
24	O	SYNC	9	9X	36H／76H(SHIFT ON)	7FH : ON／00H : OFF	
25	O	SCRATCH	9	9X	37H／77H(SHIFT ON)	7FH : ON／00H : OFF	
26	O	PFL	9	9X	3CH／7CH(SHIFT ON)	7FH : ON／00H : OFF	
27	O	VIDEO MODE	9	9X	03H／43H(SHIFT ON)	7FH : ON／00H : OFF	CH 5

QUARK SC MIDI MAP							
	I/O	FUNCTION	MIDI CODE	CHANNEL+ MIDI CODE	FUNCTION CODE	ACTION	
LEVEL LED							
1	O	LEVEL LED	0B	BX	3DH／7DH(SHIFT ON)	00H~7F *	
* X=CHANNEL,(0-3)							
* LED RINGS CODE : (CC COMMAND)							
00~11		=> 0	=> ALL LED OFF				
12~23		=> 12	=> 1 LED ON				
24~35		=> 24	=> 2 LEDS ON				
36~49		=> 36	=> 3 LEDS ON				
			. . . . .				
108~119		=> 120	=> 9 LEDS ON				
120~127		=> 120	=> ALL LEDS ON				

5.2. Technical specifications

General section

Product …..……..... USB 5V, 500mA / DC 6V, 1.75A
Power Supply……..……..…..…. 3.3 Kgs.
Weight.....…….....…… (1) Inputs: 1 microphone input and 2 line inputs.
Characteristics……..…… Outputs: 2 line outputs and 1 headphone output.
(2) Max. output: 0.8V RMS.
Chassis dimensions…..... 358 (W) x 220 (D) x 43(H) mm
Dimensions with connections and protections……..... 358 (W) x 233,5 (D) x 64(H) mm
MIDI Controller

Audio specifications

(Carga: Línea=100Kohm, Auriculares=32ohm, Potenciómetros al máximo, Señal de Test: MP3, 128Kbps, Balance de auriculares: Potenciómetros en el límite en CHA o CHB)

		TÍPYCAL	LÍMIT	CONDITION
(1) Output level:	Line OUT1&2	0.8V +/-0.5dB	0.8V +/-1dB	1KHz, 0dB (TCD-782 TRK2)
	Headphones	0.3V +/-0.5dB	0.3V +/-1dB	1KHz,-20dB (TCD-782 TRK16)
(2) Channel Balance:	Line OUT1&2	Within de 0.5dB	Within 1dB	1KHz, 0dB (TCD-782 TRK2)
(3) Channel separation L/R (*2):	Line OUT1&2	85dB	80dB	1KHz, 0dB (TCD-782 TRK9 & 11)
(4) THD+N (*1):	Line OUT1&2	0.02%	0.05%	1KHz, 0dB (TCD-782 TRK.2)
	Headphones	0.03%	0.06%	1KHz, 0dB (1V OUTPUT)
(5) S/N (*2)	Line OUT1&2	90dB	85dB	1KHz, 0dB (TCD-782 TRK.2 & 8)
(6) Frequency response:	Line OUT1&2	17Hz-16KHz +/-0.5dB	17Hz-16KHz +/-1dB	(TCD-781 TRK.1,4 & 16)
(7) Max headphones output:		1.4V	1.3V	1KHz, 0dB, THD=1%
(8) Mute:	Line OUT1&2	-55dB	-50dB	1KHz, 0dB (TCD-782 TRK.2)
(9) Rec/Play Section (Master at maximum level)				
9-1 Input level	Line OUT1&2	0.8V +/-1dB	0.8V +/-1.5dB	Line IN 1KHz +6dBV(2V)
		0.8V +/-1dB	0.8V +/-2dB	Phono IN 1KHz -32dBV
		0.8V +/-1dB	0.8V +/-2dB	MIC 1KHz, -36dB (Max. level)
9-2 Frequency response:	Line OUT1&2	20Hz-20KHz +0/-1dB	20Hz-20KHz +0/-3dB	Line IN 1KHz +6dBV(2V)
		20Hz-20KHz +1/-2dB	20Hz-20KHz +2/-3dB	Phono IN 1KHz -54dB(RIAA)
		20Hz-20KHz +/-1.5dB	20Hz-20KHz +/-3dB	MIC 1KHz, -50dB (Max. level)
9-3 S/N (*2)	Line OUT1&2	80dB	76dB	Line IN 1KHz +6dBV(2V)
		75dB	70dB	Phono IN 1KHz -32dBV
		65dB	60dB	MIC 1KHz, -50dB (Max. level)

Notas:
*1: With low-pass filter at 20KHz.
*2: With low-pass filter at 20KHz, weighted "IHF-A".
*3: All measures taken with an external power source equipment.

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